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Report of
The Maryland Agricultural Society—
Maryland Farm Bureau Federation,
INCLUDING REPORTS OF THE
Maryland State Horticultural Society,
Maryland Crop Improvement Association,
Maryland State Beekeepers' Association,
Maryland Vegetable Growers' Association,
Maryland Stockmen's Association,
Maryland Tobacco Growers' Association,
Home and Community Committee Meeting,
4-H Club Conference,
Roadside Marketing Conference

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REPORT OF THE
MARYLAND
AGRICULTURAL SOCIETY
THE
MARYLAND
FARM BUREAU FEDERATION
INCLUDING REPORTS OF

The Maryland State Horticultural Society
The Maryland Crop Improvement Association
The Maryland State Beekeepers' Association
The Maryland Vegetable Growers' Association
The Maryland Stockmen's Association
The Maryland Tobacco Growers' Association
Home and Community Committee Meeting
4-H Club Conference
Roadside Marketing Conference

VOLUME XVIII, FOR THE YEAR 1933

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BALTIMORE, MD.

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LETTER OF TRANSMITTAL

*To His Excellency, Albert C. Ritchie,
Governor of Maryland.*

SIR:

I herewith submit to you as directed by the Act incorporating the Maryland Agricultural Society, and also the Horticultural Society, this report for the year 1933, which contains a detailed statement of the receipts and expenditures of the Society as approved by the Executive Committee and Advisory Council. It contains the proceedings of the Eighteenth Annual Meeting of the Maryland Agricultural Society, Maryland Farm Bureau Federation, and annual meetings of the Affiliated Associations.

I trust that an inspection of its contents will convince you that the funds appropriated for this purpose have been wisely and judiciously expended.

Respectfully submitted,

MILES H. FAIRBANKS,
Secretary.

March, 1934,
Baltimore, Md.

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REPORT
OF THE
EIGHTEENTH ANNUAL MEETING
OF THE
Maryland Agricultural Society
Maryland Farm Bureau Federation

January 9-10-11-12, 1934

Lord Baltimore Hotel

Baltimore, Maryland

WEDNESDAY AFTERNOON SESSION

JANUARY 10, 1934

Mr. Cockey opened the meeting and called upon Rev. John A. Nesbitt, Pastor, Catonsville Presbyterian Church, for invocation.

MR. COCKEY: I have a very pleasant duty to perform now in introducing to you our Vice-President, Mr. Harry Nuttle, who is also president of the Caroline County Farm Bureau, and he will preside over this meeting from now on. I take great pleasure in introducing to you our good friend, Mr. Harry Nuttle.

MR. NUTTLE: Thank you, Mr. President, I hope I can perform my duties to your and my own satisfaction. We will now be led in song by Mr. William R. McKnight of Dorchester County.

(Songs.)

MR. NUTTLE: We are indeed honored to have with us this afternoon a man who has done a wonderful job this past year. A year ago even he would not have imagined that he could have finished this financial job of his in Baltimore with such success as he has. He is also a man beloved on both sides of the Chesapeake. His reception on the Eastern Shore yesterday warmed the cockles of his heart, I am sure. It is, indeed, with pleasure that I present to you the Mayor of Baltimore, His Honor, Howard W. Jackson.

ADDRESS BY MAYOR HOWARD W. JACKSON

Mr. President, Members of the Maryland Farm Bureau, Ladies and Gentlemen: This meeting of the Maryland Farm Bureau in Baltimore is of importance not only to the agricultural and dairy interests of the State, but to our people as a whole. At this time we are in the midst of a program for recovery that touches intimately our social, economic and business life. If we are to emerge triumphant from the effects of the depression it must be through a spirit of genuine cooperation among all our people.

The producer has his problems and those problems are by no means small nor easy to meet and overcome. On the other hand, the consumer has problems that are just as troublesome. No great problem was ever settled correctly without true understanding of the aims and purposes of all of those affected.

The economic interests of our people as a whole are so closely allied under modern relations of life that no single large group of our people can long suffer from adverse financial conditions without touching the welfare of other groups of our population. Prosperity to the agriculturist means greater returns to industry and business and when those employed in industry and business are prosperous they spend more for the products of the farm.

A very large percentage of the earnings of the farmer, above sustenance and operating costs, go for the purchase of the products of industry. The money spent by the farmer in this way passes in considerable proportion into the wages of men and women who live in community groups. It can thus be seen that the question of prosperity of the farmer is of vital interest to those who live in the larger centers of population.

It is equally as true that the question of the prosperity of the farmer is largely linked with the ability of the consumer to purchase farm products. When the employment level of the people as a whole is raised, and the worker in industry receives a fair return for his toil, he naturally expands his purchasing of farm products beyond the actual necessities in the line of what may be considered the extras of consumption.

We are undoubtedly coming out of the business depression. New standards are being set up and it is inevitable that the greatest of all business exchanges; namely, that between the farmer and the consumer, will be affected.

The Maryland Farm Bureau has invited the consumers of Baltimore to attend its convention, to listen to its discussions and to participate in its deliberations. That alone is a distinct step forward to a more sympathetic understanding.

The new deal is speeding up the wheels of both industry and agriculture, the flow of money is increasing, and it seems inevitable that all elements of our population will be benefited thereby.

With the desire for mutual understanding, with the determination to

thoroughly consider and adjust the relationship between producer and consumer, and with the determination to establish and maintain standards to properly protect the farming interests of the State, this convention is well equipped to handle the problems. I feel sure that as a result of your deliberations there will be a better understanding between all our people. I welcome you to Baltimore.

MR. NUTTLE: Thank you, Mr. Mayor, with such a Mayor there is no reason for a division between the rural section of Maryland and the city of Baltimore. We cannot live without each other, our welfare depends upon the welfare of both. It is, indeed, a pleasure to meet in your city, sir, and stay with you three or four days.

We are also fortunate in having with us a representative of the Baltimore Chamber of Commerce, Mr. N. S. Meese, who will bring us a greeting from that body.

MR. MEESE: Mr. Chairman, Your Honor, Mr. Cockey, Ladies and Gentlemen: As President of the Chamber of Commerce, it is, indeed, a real pleasure to be here with you and offer a word in behalf of the business interests of Baltimore and welcome to you. It goes without saying that in these strenuous times the merchants of Baltimore are, indeed, glad to see you. I should like to spend just a minute to acquaint you with one or two things which the Baltimore Association of Commerce is connected with, that are perhaps not known to you, and then to discuss with you for a minute or two one or two things.

The Baltimore Association of Commerce has long recognized the importance of agriculture in Maryland's economic structure. Likewise, it has been fully appreciative of the extent to which farm income has contributed to the maintenance and expansion of local business enterprise. On account of this interest the Association of Commerce, in co-operation with the State government of Maryland, has conducted a detailed economic survey of Maryland's agricultural industry, which is to be published in the very near future. The survey is intended to serve as a basis for a more intensive effort to develop the State's agricultural resources.

This survey was prepared to convey a general economic picture of the more important phases of the industry—its development, present operations, potentialities and economic value. It is hoped, also, that the study may prove to be a definite contribution of considerable value to the existing literature regarding the State, and will bring about a clearer understanding of some of the economic problems now confronting Maryland agriculture.

A knowledge of the agricultural industry of this great commonwealth is practically necessary for every business executive. This need is emphasized by the widespread effect which the trends in farming activities have upon the general business conditions throughout the State.

Products of the farm not only supply the most essential human needs, but

they also serve as a stimulus to the development and maintenance of other forms of enterprise, such as manufacturing, trade, transportation, etc.

In addition, the present economic importance of the State's agricultural resources is further emphasized by the fact that the livelihood and welfare of a substantial portion of the State's population is directly dependent upon the conduct of farming activities. In many sections of Maryland agriculture is the dominant activity of the population, and in such areas the returns from agricultural operations constitute practically the sole source of income.

Recognizing the fundamental importance of agriculture to the general welfare of the State, and in an endeavor to bring about a more complete utilization of the farm land area and improve conditions generally through the development of a more prosperous agriculture, business men of the State should be ready and willing to assist the farmer in the solution of existing problems and in a modification or expansion of present operations.

From the standpoint of the consumer, I am desirous of purchasing Maryland-grown agricultural products. Furthermore, I am deeply interested in seeing an ever-increasing number of persons in this and other nearby States consume the products of Maryland farms. I am also of the opinion that the agricultural products of our State should be better known and appreciated. In this connection I wish to applaud the efforts of the University of Maryland and other agencies for endeavoring to better the standards and grades of the farm products of the State. In this manner the local products can command premium prices in the country's markets and enhance the farmer's income to a corresponding degree.

Relief for the farmer cannot be secured solely through legislative enactment. Much assistance can be given the farmer through these means, but any basic improvement in his condition must originate from his own initiative and must be based upon carefully planned and efficiently conducted, business-like operations, with the most profitable outlet possible for his products as the fundamental objective. The character and strength of the competition that has developed in the larger markets of the country from the sale of agricultural products has materially raised the standard of marketing requirements covering quality, grading, packing, etc. The Maryland farmer must conform to these requirements if he is to develop a permanent and profitable demand for his products in the larger markets, perhaps even at the expense of changes in his cultural methods.

In order to overcome many of these competitive problems I would like to see more Maryland farmers taking advantage of the benefits to be derived through marketing their products cooperatively. The services to the farmer performed by properly conducted co-operative associations in determining marketing requirements and in financing, storing, grading, packing, inspecting, etc., place the members in a much better competitive position than is enjoyed by most independent farmers.

Through the services of such cooperative efforts the Maryland farmer

can reasonably anticipate not only a more extensive demand for his products but a greater profit to himself as well. Through an official cooperative association the individual farmer can be relieved of many of the details of marketing his products. Through advertising, such an association can render to him valuable assistance in building up a widespread reputation and an established demand for various products. In connection with quality products, the adoption of suitable trademarks would not only identify a particular commodity but would protect both producer and consumer from substitution and would result in the creation of a larger market demand. The ultimate success of cooperative marketing associations, of course, depends largely upon the delivery to them of products of high quality which are able to meet competition with the best products of other sections of the country.

In conclusion, I want to congratulate the farm leaders of Maryland on the splendid work they have done in advancing the position of the State's agricultural industry, and to extend to them the co-operation of the Baltimore Association of Commerce in their efforts to further develop Maryland's largest and most important basic industry.

MR. NUTTLE: Thank you, Mr. Meese. It seems to me I have heard that message before.

We will now have a response from Mr. P. C. Turner, President of the Baltimore County Farm Bureau.

MR. TURNER: I am glad of the opportunity to respond to your cordial words of welcome to our organization.

I think it opportune that this particular year the president of the Association of Commerce was selected to help welcome us, representing as he does the complex and diversified business of this city.

At this time our great President at Washington is leading us out of the wilderness of depression, through the many agencies of the New Deal, which in reality is changing the whole economic structure of the nation. I want to state here that the New Deal is working slowly but surely and those pessimists who question the improvement, I put in the class with the New England fisherman, who, when asked are times getting better? said, "I don't see that they are, but they must be better west of here, because I am shipping them four times more fish than usual."

Thinking people today as never before, realize that the farmer must have fair prices for his products, if lasting prosperity comes to this nation. Any increase in his products is immediately reflected in increased sales in your stores, increased production in your factories, increased work for your labor and more money flowing into your banks.

I sincerely hope your addressing us today will be the entering wedge, for a closer contact between your organization and ours, thereby giving opportunity for solving problems of mutual interest. I hope many of your members will sit in on this convention, especially to hear our President O'Neal and the Honorable Henry A. Wallace, Secretary of Agriculture.

I again thank you both for your warm words of welcome.

MR. NUTTLE: We will now listen to the president's annual address.

PRESIDENT'S ANNUAL ADDRESS

By CHAS. T. COCKEY, JR.
Pikesville, Md.

Mr. Chairman, fellow Farm Bureau members, ladies and gentlemen: The Maryland Agricultural Society—The Maryland Farm Bureau Federation a little over one year ago held its annual convention here in this hotel. At that time we received reports from our officers concerning our activities for the year 1932, and, also wrote a program for 1933.

It is *hoped* that at this convention there will be written a *real* constructive program for the year 1934, and that your officers and your board of directors will see to it that the program is carried out.

It is the future that concerns us most at this time. It is to the future that organized agriculture would do well to give deep study, for therein lie our hopes for successful agriculture.

American farmers today are facing their most severe test. New and far-reaching governmental policies, designed to improve agricultural incomes and living conditions, daily challenge the ability of farmers to maintain a solid front. Those who oppose agricultural organization, legislative and cooperative, are deriding the farmer and asserting that he is too short-sighted and too greedy to cooperate with his neighbor in building a better and a happier agriculture. Some economists are insisting that the future of agriculture is that of peasantry, because the farmer will *refuse* to take advantage of the opportunities offered him through organized effort to build the machinery that will give his industry an even break with other industries and an equal voice in the adjustments that are being made.

It is not my intention to go into details reporting our activities for the past year. Mr. Miles H. Fairbank, our secretary, in his annual report, will, no doubt, go thoroughly into these matters. I am sure his report will be both interesting and encouraging.

For many years we farmers have been in a fight with cruel problems. Let us not attempt at this time to enumerate them—they are too many. Rather, let us pick out and consider three of our most troublesome ones over which the farmer *can*, and should, exercise some authority: namely—*indebtedness, over-production, disorderly marketing.*

I suggest some consideration be given to these three problems when we write our program of work for 1934, and toward the solving of which special attention should be given.

Let us now consider them in the order in which they were named:

First, *indebtedness*:

Farmers are now going through a process of refinancing. The money is being made available through various agencies. Longer time loans; lower rate of interest; these are, indeed, invaluable benefits, enabling the holding of title to our farms and helping us to finance our future

operations. Let us not overlook this fact, however, that this help is but a shot in the arm, giving only temporary relief from our financial cramps. Our problems along these lines still remain and our only hope of escape from them is the future successful operation of our farms.

Let us next take *over-production*:

There has been made available a plan for production control. Wheat and cotton have been made the pioneers. No doubt, this plan will be extended to other commodities and, if properly cooperated in by the producer, it should go a long way toward correcting the evil of surpluses. At present this plan unfortunately is of a voluntary nature. There will be some farmers who will not voluntarily cooperate—in that event they should be penalized in some way to such an extent that it will be more to their interest to come in than to stay out. There is also danger from foreign countries. Should the price level on our produce be made sufficiently attractive to them, they, no doubt, will attempt to flood our markets with foreign grown farm commodities and thereby nullify the benefits which should rightfully be ours. In that event we should insist that steps be taken by our lawmakers to see that such a thing does not happen. The American market on farm products should be kept for the American farmer.

Lastly we will take up *disorderly marketing*:

We have had the gradual taking away from us by independent commission firms the marketing of our own produce. These commission firms too often being more interested in the commission they get and in the welfare of the purchaser and not being concerned enough about the producer. The flooding of our markets with produce disregarding demand, over-production, lack of knowledge of the present or future marketing conditions, and many other factors enter into and constitute disorderly marketing. We recognize, of course, that supply and demand do, to a great extent, influence prices, but we producers should see to it that the demand is not over-supplied. As a remedy we should encourage the setting up of more farmer owned and farmer controlled central commodity marketing agencies. It is a pleasure to note, however, that the trend is along these lines. We have the Milk Producers, the Tobacco Growers, the Wool, the Wheat and the Live-stock agencies all operating in this State under this plan. Other commodity marketing agencies should be set up and thus by many hundreds of farmers marketing their products through one agency they, naturally, will eliminate competition among themselves to sell and automatically compel competition among purchasers to buy.

And now, let us sum up these remarks and get our answer. We will take them in the reverse. By *orderly marketing* we naturally raise the price level, which, if accomplished means more money. By eliminating *over-production* we also naturally raise the price level, which, if accomplished, means more money. If we have more money it means the elimination of our *indebtedness*, and if these things are accomplished from the

proceeds of the farm we have our answer—*happy homes on the farm, better communities in which to live, a prosperous and contented agriculture.*

MR. NUTTLE: Why, President Cockey is a speechmaker! I did not know he could make a speech like that.

We have had our problems. We have had our fights, but working together I believe that there is a future for us. It is now my pleasure to present to you the secretary of the Maryland Farm Bureau.

MR. FAIRBANK: Before presenting my report, I want to present a resolution which was presented to the committee last evening at the meeting of the resolutions committee, because it seems important that this should be acted on immediately. I was asked to present it at this time, so that if we have the unanimous consent of this organization upon it, we can forward it to Washington. It refers to the milk situation.

We did not feel that it was a matter for the voting delegates to act upon if we could present it to you and send it as the voice of this convention. This resolution could be wired to Washington immediately.

Milk Market Situation Resolution

In accordance with an official notice released today by the Milk Marketing Division of the United States Department of Agriculture operating under the Agricultural Adjustment Administration Act, in which a definite policy is adopted on milk marketing agreements, and

Inasmuch as the policy so adopted is contrary to the law which contemplates raising the price of milk to a parity price equal to that of 1909-14, and

Inasmuch as the new policy indicates using the price of butter as a basis for establishing prices of fluid milk in the fluid milk markets, and

Inasmuch as such a policy will work to the disadvantage of Maryland milk producers as well as other milk producers in the Eastern States, who supply the fluid milk market, and whose costs of production are relatively high as compared with other sections; be it therefore resolved;

That the Maryland Farm Bureau Federation go on record as vigorously protesting this announced policy of the said Milk Marketing Division of the United States Department of Agriculture; and be it further resolved;

That the Secretary of the Maryland Farm Bureau Federation be instructed to send copies of this resolution to Henry A. Wallace, Secretary of Agriculture and J. H. Mason, head of the said Milk Marketing Division.

The resolution was moved, seconded by Mr. Turner, and unanimously passed.

Mr. Fairbank thereupon made his report.

REPORT OF SECRETARY-TREASURER

MILES FAIRBANK

Ladies and gentlemen of the Maryland Farm Bureau Federation: Once again I have the pleasure of submitting to you an account of our stewardship.

The year that has just passed has been an interesting one, to say the least, for farmers. It has certainly been a year of progress. We have been in the midst of a program from which none of us has been spared, a program partly of our making, in that we have seen the working out of many of the projects we have advocated for years. The program has been influenced, however, by forces growing out of the depression and it has seen the actual participation of many persons and organizations, heretofore only indirectly interested in the farmers' welfare.

The present national program to aid farmers has two aspects, one to project long-time changes to put our industry on a permanent basis, and, secondly, to provide a hypodermic, temporary perhaps, but which we hope will be effective in this emergency.

Since your Farm Bureau has itself, a long-time program, we have been tremendously concerned with those matters of legislation, authorizing the setting up of new agencies that have a tendency to change the warp and woof of our agricultural life. Fortunately, you may take pride in the fact that your national organization has been an important factor in shaping national agricultural legislation. Your national leaders have won the respect of leaders in Congress and of the administration.

So far as Maryland is concerned, we have found that our principal job during 1933 has been in taking our part to help carry out the national program for the recovery and the reorganization of agriculture.

Therefore, it seemed perfectly natural for us to take the initiative in the formative stages of the wheat adjustment campaign. Before the plan became public, we were principally concerned with keeping the leadership among our farmers rather than among politicians. Consequently, your secretary was in constant touch with Washington attending hearings and conferences and contacting the proper officials. Governor Ritchie set up a State Wheat Adjustment Committee and your president, Mr. Cockey, is a member of that body. We were called on to advise and to help, and we feel we were instrumental in cutting much of the red tape so far as this State was concerned. Certainly, we can take pride in the fact that the same leadership was manifested by the county Farm Bureaus and the net result in Maryland of the wheat campaign was, indeed, gratifying, putting over \$800,000 of new purchasing power in the State, while we were reducing our wheat acreage as a part of the national plan.

In the same manner, we have made it our business to keep abreast of the developments of the Farm Credit Administration. The leaders of that new organization fully appreciated the fact that the Farm Bureau could

be most helpful in development of the agricultural credit program and we have had a splendid spirit of cooperation and close relationship between the officials of the Farm Credit Administration in this city and our Farm Bureau. Your president and secretary are serving as chairman and secretary, respectively, of the State Farm Debt Conciliation Committee, appointed by the Governor, and we have been instrumental in setting up county committees. Your secretary has served on the Board and Loan Committees of the Regional Agricultural Credit Corporation during the past year. It has been a pleasure to work with the officials of the Farm Credit Administration here, many of whom are men who have been active Farm Bureau members, and we have tried to help shape the development of the credit system in the manner in which we believed would be most advantageous to our farmers. The developments of the past few months convince us that this is being done.

During this time, however, the general program of the Farm Bureau, that of rendering service to the farmers of this State, has been progressing. At the Legislature last winter our principal attention was given, as you know, to our tax reduction program. A year ago at our convention, we reported the preliminary work that had been done up to that time on our tax campaign. The work of the tax committee in drawing up that program, giving it publicity, creating public sentiment behind it, selling the idea to the Governor's Tax Survey Commission, to the County Commissioners' Association and to members of the Legislature, is well-known. It is unnecessary to make a lengthy report. Your tax bills have given you the results. It is sufficient to report that the legislation put into law the essential parts of our program with the result that property taxes were reduced in the counties approximately three and one-half million dollars annually. While we feel that this is a long step in the right direction, we do not feel that the tax problem is solved. Already your tax committee is laying plans for a constructive tax program for next winter. Our program is not only one of reducing the tax bill, but of establishing an equitable tax system, placing the burden where, in justice, it should equitably rest.

Other legislation in which we were interested became law. We backed what is now known as the Cantaloupe Bill, providing for the establishment of a set of standards for cantaloupes and grading thereof. This measure was advocated by several county Farm Bureaus of the Eastern Shore. In one season it has proved a good law and will be instrumental, we believe, in lifting the quality and consequently the returns for the cantaloupe crop.

We worked hard to put on the books the two important tobacco laws, advocated by the leaders in Southern Maryland. One of these sets up government grades for tobacco and the other relates to the title of sales.

We passed a Crop Lien Law, which more fully enabled our farmers to utilize the new Federal production credit.

Other legislation passed through the assembly in which it was difficult

for your Farm Bureau to take sides. Principally was this true of truck legislation, designed to bring in increased revenue from truck operators.

We appreciated that Maryland was out of line with neighboring States in the scale of license rates for truck owners and that it would seem inconsistent not to approve some increase. However, we did not want rates placed so high as to materially increase freight costs. Also, we felt this farmers' trucks should have been exempt, and we succeeded in having this done.

The resultant truck legislation is far from satisfactory, however, both from the standpoint of the truck owner and the farmer. We are convinced that new legislation will be introduced next winter and feeling that we should want the facts so as to properly safe-guard our farmers' interests, we have requested Mr. S. B. Shaw, Chief of the State Department of Markets, to make for us an impartial survey of the entire truck situation. Mr. Shaw has assigned Mr. W. C. Beaven to that task and his report should be ready for your board of directors the early part of this year.

Nineteen-thirty-three may be termed a very successful year from the standpoint of the several Farm Bureau activities, now a permanent part of our organization.

Our Automobile Insurance Company has made splendid progress. Our company as a whole has made a much larger net gain in coverages last year as against 1932 and with a rating that places us with the leading companies of the country, you may take pride in the fact that a farmers' cooperative can manufacture automobile insurance on a mutual basis at low cost. Mr. R. W. Richert, our State agent, reports that in Maryland we have over 10,000 policyholders and our gain has been continuous. Our agents have done more than sell automobile insurance—they have and are selling cooperation.

The Farm Bureau Wool Pool enjoyed its best year from the standpoint of rendering the highest returns. The story of the wool market last spring is well-known. We opened our advance at 17c and later at 20c per pound when wool was selling and much had been sold at considerably less than that. The market price advanced accordingly and since the comparison with last year was so marked, most wool was sold to dealers. It is regrettable that in a State that produces nearly half a million pounds of wool, we should only get 40,000 pounds in our pool. However, our wool sold through the National Wool Marketing Association netted our growers 33c per pound average and checks for their balances have already been distributed.

The Eastern Livestock Marketing Association has carried on courageously in spite of almost insurmountable difficulties. What the Eastern needed, like any new organization, was volume. This has been one of the worst years that livestock men have seen for a long time and the Baltimore market has had neither the quantity of livestock, nor the buyers. We have had the added disappointment of insufficient patronage from

our own State. We are glad to report that the Eastern has opened up on the Jersey City market and is carrying out its plans for further expansion. Certainly, it is rendering a service that is needed by our livestock industry and the Eastern deserves your support.

During the year we have seen the Agricultural Corporation of Maryland overcome most of the difficulties arising from the business depression and make a slow but steady recovery while still rendering an invaluable service in the buying of feed, fertilizer and farm supplies. This morning at the stockholders' meetings a full report of the business of that organization was given but I cannot let this opportunity pass without urging you, if at all possible, to visit our new warehouse at Key Highway and Montgomery Street.

The Farmers' National Grain Corporation, operating through the Agricultural Corporation, has continued to increase its business and handled this year, as a sales agency for our grain 52 per cent more business than last year.

One of the matters that has occupied some of our attention during the past year has been the opportunity of rendering our farmers a service through the gas and oil business. We have studied this matter considerably, especially the work being done in other States, and a committee was appointed recently to look into it. This should be given immediate attention during the coming year.

During the year we supported the American Farm Bureau Federation in several projects, pertinent to the farmers of this State. We have every reason to believe that our activity was beneficial. Among other things:

Last spring as a part of the Economy program of the Federal Government, the office of the market news service was discontinued in this city. We not only protested, but submitted data to show that the closing of the Baltimore office would not effect the saving mentioned but would work a hardship. The service was restored.

Last spring a petition sponsored by certain transportation agencies was laid before the Tariff Commission to reduce the rates on imported tomatoes from Mexico and Cuba. We protested, assembled data, presented our case, and the petition was denied.

During the year we joined with other parties in an effort to reduce telephone rates before the Public Service Commission. The burden of that fight was carried by Mr. J. H. Lewin, Peoples' Counsel. It was our responsibility to work quietly, informing our members and arousing favorable public opinion. This we did. The Public Service Commission, after considering all the facts presented, ordered the Chesapeake and Potomac Telephone Company to reduce rates. We shall continue to support the Public Service Commission in the belief that our rural districts are entitled to cheaper phone service.

It is a pleasure to report that not the least of Farm Bureau accomplishments of the past year was one involving neither economies nor legislation. I am referring to the Farm Bureau World Fair Tour. Through the cooperation of the B. & O. Railroad making us a very attractive rate and

with the splendid help of the Extension Service, a party of 367 persons was carried to Chicago, over 250 of them being from our counties. The reaction from this trip was so splendid that we have been urged to arrange an annual affair of similar character as a vacation trip for Maryland farmers.

As a matter of fact, the social side of the Farm Bureau has not been neglected. Our efficient county leaders have seen to it that we have had some of the best picnics, banquets and booster meetings ever held in the State. We had a splendid Farm Bureau day at Timonium with a flag dedication as a special exercise.

It is a pleasure to bring you a report of our membership status. We reduced our dues last year, as you will remember. From that alone, we had a right to expect a substantial increase in membership. However, at our last convention, we had not reckoned with a bank holiday and some banks not opening after the holiday. This not only tied up certain funds, but obviously affected the morale of many people.

The net result of this was that many counties did not put on membership campaigns at all during the year. Yet, our membership has increased encouragingly. We have paid in to the national organization not only more members than last year, but in percentage of increase over last year, we were second in the United States. Several counties have made most encouraging membership increases. All of the counties have done splendid work in arousing sentiment and laying the foundation for work during the coming months. It is safe to say that there never was a time when membership was as easy to get as at present. Everywhere we see evidence of knowledge of Farm Bureau accomplishments and a growing organization consciousness.

During the year the directors of the Maryland State Poultrymen's Association, for reasons which they did not disclose, voted to withdraw from the Federation and the Maryland Horse Breeders' Association made application to join. Their application was duly passed on by a committee of the directors and the Horse Breeders' Association was accepted into the Federation.

The books of the State office have been audited as required by our constitution and a special committee will report to you on that audit. I am happy to say to you that while it has been the policy of your directors to utilize all available funds in rendering you the services you desire, we have continuously kept from over-stepping the bounds and have endeavored, by exercising strict economy during this past year, to add a little each month to our reserve and your report will show that we are about \$1,000.00 better off than we were a year ago, with liquid assets of nearly \$12,000.00.

In November, your board of directors undertook a new project and as yet the results are indeterminable. I am referring to our radio programs. It was our belief that we should capitalize on the increasing public interest in the agricultural movement and radio was selected as the way

to do it. It has been no easy task developing a new program every other week with our limited personnel, yet we have felt that in this way we could make it easier for you to enlist the unorganized farmers and the general public. We must depend upon you to advise us if this is successful.

In closing, I want to pay personal tribute to the splendid cooperation I have received from all of the Farm Bureau leaders in the counties. The officers of the University of Maryland, their staff, the members of the Extension Service, both men and women, the county press and the leaders of Baltimore City and the State have been most cooperative.

Although she would not desire it, I want to pay tribute to my secretary, Miss Margaret Dressel. Many of the helpful little details of the Farm Bureau program which you have attributed to me have really been the result of her efficiency, thoughtfulness and devotion to this organization.

As a matter of fact, I submit this report as one who feels that the problems of the past twelve months have revealed among us qualities of sacrificial friendships that we did not know existed. If we have had a successful year, it is not because of the ability of any one man, but rather of our having found a common ground on which to work. Let us look forward to the new year in the same spirit.

MR. NUTTLE: We will now have the report of the Auditing Committee:

REPORT OF THE AUDITING COMMITTEE

As heretofore, the president appointed a committee to examine the annual audit of the treasurer and report to the convention. The committee consisted of Phillip Turner, J. Wilson Lord and Charles I. Boyle. Their report is as follows:

"The books and accounts of the Maryland Farm Bureau Federation have been audited by a certified public accountant and your committee has examined the audit as presented.

This report will be printed in full in the annual report and forwarded to each county, where all members can obtain any information relative to it they may desire.

While it has never been the policy of the Farm Bureau to accumulate any large surplus, believing that we should spend available funds in rendering service, we are pleased to report the State Office has been so able to adjust its program that each month has accumulated a small reserve.

The liquid assets of the Maryland Farm Bureau Federation total \$11,813.49, an increase of \$1,132.27 from last year, invested principally in Liberty and Treasury Bonds.

The furniture and other fixed assets have been drastically reduced to a point that reflects a true statement of their worth.

There are no outstanding obligations of any character.

Respectfully submitted,

(Signed) P. C. TURNER, *Chairman*,
J. WILSON LORD,
CHARLES I. BOYLE.

MR. NUTTLE: That is the best report yet. I guess a lot of us wish we could make a report like that of our own business.

(It was moved and seconded and carried that the report be accepted.)

Schedule 1.

Statement for Receipts and Disbursements for Period from January 1, 1933, to December 31, 1933.

RECEIPTS:

County Dues Collected.....	\$2,130.25
Subscription to Co-op Collected.....	783.50
A. F. B. F. Dues Collected.....	416.25
Associated Membership Dues Collected.....	160.00
Farm Bureau Organization Expense Refund....	226.78
Medals	11.70
Board of Directors Expense Refund.....	143.48
Publicity Income	687.70
Auto Insurance Commission Income.....	2,490.47
Auto Insurance Renewals Income.....	8,488.00
Bonding Expense Refunds	154.35
T. Fair Expense Refunds.....	149.54
Interest Earned on Bank Balances.....	11.00
Interest Earned on Liberty Bonds.....	85.00
Rent, Telephone and Telegraph Refund.....	1,530.97
Annual Meeting 1933 Income.....	1,011.20
Office Expense Refund	30.69
Note (Live Stock Assn.) Paid on Account.....	150.00
Live Stock Expense Refund.....	161.38
Salary Clerks Income.....	2.00
Fairbank Traveling Expense Refund.....	150.00
Cockey, Jr., Traveling Expense Refund.....	20.00
Total Income for Period.....	\$18,994.26
Saving Account Transferred to Checking Account	2,000.00
Bank Balance January 1, 1933.....	3,535.09
Available Cash	\$24,529.35

DISBURSEMENTS:

Farm Bureau Organization Expense.....	\$454.04
Medals	60.12
Board of Directors Expense.....	858.28
Publicity	985.85
Salary President	1,111.37
Salary—Secretary and Treasurer.....	2,875.00
Salary—Clerks	2,388.50
Salary—Publicity	30.00
Salary—Accountant	180.00
A. F. B. F. Dues.....	761.00
Bonding Expense	181.19
T. Fair Expense	313.72
Rent—Telephone and Telegraph.....	2,580.62
Cockey, Jr., Traveling Expense.....	196.70

Fairbank Traveling Expense.....	531.35	
Annual Meeting Expense 1933.....	1,502.55	
Annual Meeting Expense 1934.....	15.75	
Office Expense	1,148.84	
Auto Expense.....	487.63	
Live Stock Expense.....	10.00	
Automobile	351.59	
Federal Bank Check Tax.....	9.68	
Saving Account.....	2,000.00	
Committee Expense.....	386.40	
U. S. Treasury Bonds 3's.....	1,960.00	
Commission on U. S. Treas. Bonds 3's.....	2.00	
Accrued Interest on U. S. Treas. Bonds 3's.....	7.67	
Total Disbursements for period.....		21,389.85
Balance in Banks December 31, 1933.....		\$3,139.50
(See analysis Schedule 3)		

Schedule 2.

Statement of Receipts and Disbursements for Month of December, 1933.

RECEIPTS:

County Dues Collected.....	\$169.25	
Subscription to co-op.....	33.75	
A. F. B. F. Dues Collected.....	67.00	
Rent, Telephone and Telegraph Refund.....	78.33	
Auto Insurance Commission Income.....	193.72	
Auto Insurance Renewals Income.....	624.50	
Cockey Jr. Traveling Expense Refund.....	20.00	
Office Expense Refund.....	3.60	
Publicity Income	6.25	
Bonding Expense Refund.....	2.25	
Total Income for Month.....	\$1,198.65	
Equitable Bank Balance Dec. 1, 1933.....	2,269.88	
Available Cash		\$3,468.53

DISBURSEMENTS:

Salary President	\$100.00	
Salary Sec. & Treas.....	250.00	
Salary Clerks	220.00	
Salary Accountant	10.00	
Office Expense	67.15	
Rent, Telephone and Telegraph.....	203.92	
Fairbank Traveling Expense.....	115.07	
Farm Bureau Organization Expense.....	4.40	
Auto Expense	40.82	
Cockey Jr. Traveling Expense.....	100.00	
Publicity	72.00	
Bonding Expense	18.57	
Federal Bank Check Tax.....	1.00	
Total Disbursements for month.....		\$1,202.93
Equitable Trust Co. Balance December 31, 1933.....		\$2,265.60

Schedule 3.

Statement of Assets as at December 31, 1933.

LIQUID:

Cash in Union Trust Co. New Account.....	\$175.42	
Cash in Equitable Trust Co. Active Account.....	2,265.60	
Cash in Equitable Trust Co. Saving Account....	2,000.00	
Union Trust Certificate of Deposit (In Safe)....	349.24	
Union Trust Co. Certificate of Beneficial Interest (In Safe)	349.24	
Liberty Bonds 4½ (In Safe Deposit Box).....	2,040.00	
U. S. Treas. Bonds 3's (In Safe Deposit Box)....	1,960.00	
Accounts Receivable as per Office Record.....	619.99	
Note (Live Stock Association) (In Safe).....	2,054.00	
Total Liquid Assets.....		\$11,813.49

FIXED:

Furniture and Fixtures.....	\$2,930.11	
Less Depre. Reserve.....	2,281.72	
Net Book Value.....		648.39
Automobile	725.59	
Less Depre. Reserve.....	43.53	
Net Book Value.....		682.06
Total Fixed Assets.....		1,330.45
Total Assets.....		\$13,143.94

ANALYSIS OF FUNDS IN BANKS:

Equitable Trust Co. Liquid Funds.....	\$2,265.60	
Union Trust Co. Liquid Funds.....	175.42	
Union Trust Co. Certificate of Deposit.....	349.24	
Union Trust Co. Certificate of Beneficial Interest	349.24	
Funds in Banks as reflected in Schedule 1		\$3,139.50

WILLIAM R. DANCE, *Public Accountant*,
208 New Amsterdam Bldg., Baltimore, Md.

MR. NUTTLE: We will now have an address, "Problems on Our Own Doorsteps," by Dr. T. B. Symons, Director of the Extension Service, University of Maryland.

"PROBLEMS ON OUR OWN DOORSTEP"

By DR. T. B. SYMONS

Director of Extension Service,
University of Maryland, College Park, Md.

Mr. Chairman and members of the Maryland Farm Bureau Federation: Following a program such as we have enjoyed this afternoon, it is a question how appropriately a discussion of the title of my address can be presented and accepted. The mere mention of problems savors of work and of difficulties, but out of their solution come most of the satisfactions and pleasures we enjoy. I have an alibi in the fact that your Secretary is responsible for the title of my remarks. He felt, I am sure, that this splendid organization should consider seriously some of the problems which are pressing for solution at present, and in the solution of which the people of Maryland may derive great benefit. Some are naturally more acute than others, but to go forward we cannot shrink from attacking some of the more evident issues that affect our prosperity and general welfare.

Before entering into the specific discussion of the subject, let me add my word of congratulation to the Farm Bureau, as well as to the farmers of the State, for the response they have given during the past year to the various projects looking toward the rehabilitation of our fundamental industry.

I am an optimist. I believe the future holds much for the farmer who will employ every means at his command to meet our constantly changing situation. Nothing is more sure than the fact that we cannot farm today as we have farmed in yore. Agriculture is more of a business today than ever before. Many factors which concern the farmers of Maryland reach beyond State lines, and even across international boundaries. I could cite many issues affecting farmers in various sections of this State that can be reached and solved only by international agreement or compromise.

Notwithstanding the changed situation and broadened influences which react upon our agriculture, there are nevertheless many problems on our own doorstep that deserve serious consideration. Time does not permit a discussion of all these issues, together with their entangling alliances and bearing one upon another, and upon our economic and social problems. I will attempt, therefore, to enumerate only some of the outstanding issues which should be a challenge to this organization.

Proper Organization of Our Forces

The first issue that impresses me is the seeming lack of organization consciousness among our people. I would not detract in the least from the splendid work accomplished by members of this organization and the Grange, but we must admit that our people have as yet failed to respond enthusiastically by aligning themselves with any general organization of rural people. Many of the problems I will present, and others that could be presented, can be solved only through organized effort on the part of those engaged in this important industry. Of the 40,000 farmers in Maryland, less than ten per cent have seen fit to become members of this useful organization. True we have a large number of farmers associated in commodity marketing organizations and miscellaneous farmers' clubs, but these do not consider the broader questions affecting agriculture as a whole. President O'Neal says that there is no place under the sun for the isolated individualist to work out his destiny in agriculture. Is not this the first problem on our doorstep?

What a wonderful thing it would be and what wonderful things could be accomplished, if, even 50 per cent, or 20,000 farmers in our State were definitely and actively aligned with this organization—if they were in position and ready to contribute their thought and strength to the movement that is inspired with the single issue of the greatest good to the greatest number. Let us, then, try to move this stone a little further away from our own doorstep by endeavoring to convince many of our good farmers that they are standing in their own light by not lending their strength to organized agriculture.

A Safe Agriculture

There is no gainsay in the fact that we are particularly fortunate in Maryland by virtue of our geographical position and our variety of soils and climate. I have said frequently, and I do not believe the statement can be contradicted, that we have greater opportunities in Maryland, if we will carefully analyze our possibilities, than almost any territory throughout the length and breadth of this land. We must realize more thoroughly that this section offers the greatest possibilities for application of modern agricultural practices and affords unusual marketing facilities. Our nearness to the great markets of this Nation should constantly impress us with the opportunity that is ours. There is one word, which if applied to our industry, will probably mean more so far as market demand is concerned, than anything else I may say. That word is "*quality*." Consumers want quality products. They will pay for quality. Therefore, with our nearness to markets the utmost emphasis

should be placed upon quality products. Likewise, in all our efforts, let us sell the idea of "quality" in every phase of agricultural activity.

Safe agriculture involves the application of every known means of science toward low cost production and high quality produce. Nowhere can a safer agriculture be developed than right here in Maryland, and it is the task of the people on the land, and of the State as a whole, to see that it is developed.

The Marginal Land Problem

This question is very much like the weather—much talked about, but little done about it. I urge that this convention initiate an active movement in this State looking toward the proper elimination of our marginal and submarginal lands from cultivation, which would necessarily involve moving those who are barely eking out a living to other lands that will give a fair return for labor and effort. There is no sadder spectacle than an honest, industrious man and his family endeavoring to make a living on poor land or land that is unadapted to the crops they are attempting to raise. No matter how much effort they put into their enterprise it is predestined to failure, or at least to be much less successful than their effort deserves.

Let us not mistake the fact also that the welfare of the individual and his family is not alone concerned. The whole community and county, and ultimately the State are affected. He and the members of his family oftentimes become dependents upon our social organizations and the State for support. The land will not afford proper schooling or other facilities for decent living and education of the people, nor for the maintenance of a standard of living that will permit them to contribute their part to upbuilding the section wherein they are located.

We have observed this in Maryland for many years, but little has been done about it. Cannot this organization determine to arouse our people and impress our officials with the desirability of attacking this problem in a constructive manner?

I am indebted to Professor J. E. Metzger of our Experiment Station for the following figures, which indicate the extent of so-called marginal and submarginal land in the respective counties of the State:

Classification of Land Area of Maryland

Counties	Total Land Area, Acres	Marginal Land, Acres	Sub-mar- ginal Land, Acres	Non-agri- cultural Land, Acres
State	6,295,744	1,589,184	597,248	605,632
Allegany	264,960	79,872	64,256	50,880
Anne Arundel	268,160	17,920	69,440	59,776
Baltimore	423,104	59,264	17,088	2,752
Calvert	139,520	7,616	17,792	10,624
Caroline	204,160	58,816	63,488	14,720
Carroll	286,080	46,272	2,816	.....
Cecil	227,200	14,208	38,528	4,800
Charles	296,960	113,856	17,792	22,912
Dorchester	368,640	204,736	28,416	93,184
Frederick	424,320	80,064	31,936	35,328
Garrett	427,520	16,576	.....	45,760
Harford	282,880	21,376	28,928	7,552
Howard	161,920	9,472	12,352	.....
Kent	180,480	48,192	3,392	14,656
Montgomery	309,760	55,168	.....	.....
Prince George's.....	310,400	76,608	10,624	43,200
Queen Anne's.....	241,280	95,616	3,840	18,240
St. Mary's.....	237,440	91,648	14,528	15,424
Somerset	216,960	116,032	12,416	67,520
Talbot	171,520	87,232	704	9,728
Washington	293,760	30,016	17,088	4,224
Wicomico	241,920	91,584	102,464	26,368
Worcester	316,800	167,040	39,360	57,984

NOTES:

1. Marginal—Will not yield fair return in average season.
2. Sub-Marginal—Steep, shallow soil, and lacks drainage.
3. Non-Agricultural—Mountainous, stony land, tidal marsh, or coastal sand.

Data from Maryland Experiment Station Bulletin Number 351.

This issue, therefore, is one of interest to all sections of our commonwealth. It presents a very logical issue for farm organizations to analyze and promote for the benefit of the people. Fortunately, we are in a preferred position to attack this problem by virtue of the work of our Experiment Station, in cooperation with the Government. Soil surveys of our whole State have been made and the problem could, therefore, be approached without delay for these preliminaries. I should say that very few States are in this position. It is necessarily a problem that involves the active cooperation of Federal and State authorities. I believe that with the present administration, both State and National, we can secure

support in a constructive program of land utilization in Maryland. Naturally, many factors must be considered, such as watershed protection, soil erosion, and adjustment of land use that would necessarily follow a comprehensive program. It is fully recognized that the economic use of agricultural land is directly affected by climate, texture and chemical properties, biological defects and location. These major factors usually determine the value of land for production and taxation purposes.

In a recent bulletin of our Experiment Station we have a classification of our soils based upon their agricultural potentiality. Sufficient information is now available as to particular types of soil to permit prompt and effective initial action. As a State, we are short in lumber supply; much of the marginal land might better be used in producing our future lumber requirements.

I do not advocate or recommend that the State or Federal Government purchase all these marginal lands. I believe that when it appears that private ownership cannot properly take care of such lands, then it becomes a question of whether the State and Government should not step in and purchase such lands for the purpose of carrying out a wider and more comprehensive program of proper use. The important task is to deal constructively with the areas that are becoming tax delinquent. This presents a problem to both State and Federal Governments.

It is trite to say that much of our surplus produce is grown on this so-called marginal and submarginal land. It is produced at high cost and the sooner we can adequately rid ourselves, as well as the individuals operating this unprofitable farm land, the better it will be for all concerned.

Time prevents further elaboration of this problem. I am convinced that it is extremely timely just now for a number of reasons. Among others, there has been announced within the last few days by the National Administration a plan to take 40 to 50 million acres of farm land out of production through Government purchase, and an initial allotment of 25 million dollars was made for that purpose. This project is under the Public Works Administration and while details have not yet been given out, it is stated that the first lands to be purchased will be those in which the soil is unproductive and in other ways unprofitable for further farm use.

I respectfully submit that this organization could well foster an active movement toward developing and acquainting our people with a constructive program that will be of untold benefit to the future agriculture of the State.

The Milk Situation

In speaking of problems on our own doorstep, I cannot ignore the industry which perhaps has yielded more to our farmers during recent years than any other phase of the agricultural industry in the State, namely our dairy industry. The mere fact that it has grown tremendously during the last ten years is one of the main reasons that it is now an eminent problem on our doorstep.

The immediate issue, of course, is surplus milk. It is difficult for our people to understand the complications of marketing this very perishable product. It is greatly involved. The best minds of the industry have been devoted to careful consideration of the situation and how it can be improved throughout the nation. I believe it can be stated truthfully that no phase of agriculture is receiving greater attention at the present time in an effort to improve its condition than is the case with the dairy industry. I am hopeful that our good Secretary of Agriculture and his associates, together with the leaders in the dairy industry, will announce very soon a plan to meet the present emergency, similar to those projected in other phases of agriculture. I hope also that a long-time program may be developed which will prove of distinct benefit to those regularly engaged in this business.

We have made remarkable progress in our State. We have believed that we had the best marketing policy and organization that existed in the country and yet this issue is on our doorstep demanding almost immediate action for solution. I cannot go into details of the industry. Suffice it to say that I am a firm believer in the surplus plan that has been adopted by our State Dairymen's Association, and which has been so successfully carried on for the last ten years. I have been persuaded for some time that the general adoption of a plan for taking care of the surplus problem similar to that followed by our dairy marketing association could well be carried out in a long-time program for other agricultural crops and the livestock industry.

While I am an enthusiastic supporter of the present administration's policies for controlled production, I believe that ultimately it will be necessary for us to develop some such policy whereby certain prices will be given for standard production in the respective fields of agriculture and that surplus prices will be paid for surplus production.

We must admit at the present moment that there are many interests opposed to the operation of the surplus plan and favorable to a flat price for all the production. I am satisfied that if all were familiar with the complexities of the distribution of milk they would realize the fallacy of the procedure. Nevertheless, this is one of our pressing problems and we have this issue to face among our membership and dairymen throughout the State.

That we must reduce production in this field appears evident to me. It seems that this should be easy when we consider the great number of unprofitable cows that are being fed by our farmers and dairymen in this territory. It is estimated by our dairy specialists that at least 60,000 cows of our total population of 184,000 are producing without profit to their owners.

There are definite figures to support these claims, and disposal of the unprofitable cows is one of the methods being considered for reducing production of milk. When it is known that the Association had over four million gallons of third-class milk in its milk shed the last fiscal year,

which was surplus, it seems that this presents a challenge to this organization, as well as all others, to aid in meeting the difficulty. We should not only reduce production, but we should continue to urge the increase in consumption of this most valuable food product.

Bang's Disease

I mention this problem at this time because it is in fact so closely allied to the dairy problem as to be a part of it. Much study and thought are being given to this disease by our specialists and by veterinarians generally. It is exacting a heavy toll upon the dairy industry. In the neighborhood of one-fourth the dairy herds are affected, it is estimated. As dairying is such an important source of income to our farmers, we are making every effort to not only acquaint them with facts concerning control of Bang's disease, or contagious abortion, but to develop means whereby it can be eliminated or reduced as effectively as we have controlled tuberculosis in cattle. I am informed that disposal of animals affected with this disease is being considered among the plans for reducing production of dairy products.

While, as stated before, this affects a particular phase of the agricultural industry, yet it has its bearing upon the whole, and this organization could well interest itself in combatting the disease.

Health and Other Regulations Affecting Agricultural Commodities

As a result of the growing desire for quality products on the part of consumers and the proper attitude of our health authorities and regulatory officials to guard the health of the people, there is naturally an increasing number of regulations affecting the grading, handling and standards of farm products. These requirements are by no means uniform throughout the State, as each municipality has adopted what has seemed to be demanded by its consumers. Farmers are unfamiliar with the many and varied regulations and it seems that efforts might be made in the interest of greater uniformity.

We have been fortunate in Maryland in having sympathetic health agencies, both in the city and State. However, there still remains an opportunity for this organization to become more active in these matters and be a party in the development of measures for protection of the public. They are matters in which the producers, as well as the consumers, have a direct interest and have equal reason and right to be represented in the formulation of regulations. I feel sure that the State Board of Agriculture would be glad to cooperate with the farmers in the respective sections of the State and thus aid in securing more uniform regulations covering sanitary as well as general handling and sale of farm products.

Control of Pests and Diseases

While it may vary somewhat in its nature and acuteness from time to time, the problem of controlling the many enemies of our crops and live-

stock in the form of diseases and insect pests is constantly on our doorstep. This, in reality presents not one, but many serious problems and involves protection against tremendous losses. I can mention only a very few of the many serious pests which confront us just now.

Livestock Parasites

With the severe loss suffered in our State during the last year from the death of a large number of horses, as well as other stock, it would seem to be good business for us to intelligently analyze the loss due to parasites affecting our domestic animals. Prominent authorities have estimated that financial loss in livestock due to internal and external parasites exceeds that caused by infectious diseases. Internal parasites seldom force themselves upon the attention of the farmer, but silently and effectively cause the infested animals to lose weight and condition; to give birth to runts and unmarketable animals, and may cause death of their hosts. I am advised by Mark F. Welsh that in Maryland, climatic conditions are such as to permit the development of both northern and southern parasites. The Bureau of Animal Industry has found 37 kinds of parasites in Maryland horses, 20 kinds in cattle, 30 in sheep, 25 in chickens, and 20 in turkeys. Allowing for some duplication in the way of the same species of parasites in more than one kind of livestock, there are about 140 species of parasites in Maryland livestock already identified.

A great deal of research has been conducted looking toward control of these pests. It is a matter of practical application of the information that is now available in order to greatly lessen the loss. I suggest that our educational agencies in cooperation with this organization attempt to attack this problem in 1934.

Japanese Beetle

While much could be said regarding problems at our doorstep so far as insects and diseases affecting our agricultural products are concerned, I am constrained to bring to your attention the devastating injury that will be experienced by our people if we do not do everything within our power to prevent the multiplication and spread of the Japanese beetle. The splendid support of the Governor and Legislature, with our President and State Board of Agriculture, the State Entomologist, and all our forces, has enabled us to prosecute plans during the last seven years and wage a partially effective fight against spread of this pest. This has been done in cooperation with Federal Authorities.

We visited sections of New Jersey last summer where the pest had multiplied by millions. It was sad to see the devastating injury to various crops.

This is a problem that not only affects farmers, but people in both city and country who have trees or shrubbery around their homes. Recent estimates by the Federal Department indicate, for instance, that the average

loss from the beetle on sweet corn is 35 per cent in the beetle-infested territory, and the loss per acre is approximately \$17.50. The loss in field corn ranges from $3\frac{1}{2}$ to 80 per cent, with an average loss of more than \$5.00 per acre. City dwellers have experienced loss of at least \$2.50 an individual in attempting to combat the insect on their premises. Private estates have sustained an average loss of \$513 for trapping, spraying and treatment. Commercial orchards, in the case of apples susceptible to injury, have suffered an average loss of 43 per cent, or \$123 per acre. In peaches, they had a loss of 27 per cent, or an average per acre of \$154.

It seems, therefore, that we should take vigorous action in the future to prevent as far as possible the multiplication and spread of this pest in our territory.

I might very properly refer to a number of other insect pests and to some of the plant diseases which are demanding immediate and concerted action, and new enemies of this nature make their appearance at frequent intervals. Within the last few months, for example, the Dutch Elm Disease has been found in our State and threatens to bring the havoc to our beautiful elms that was suffered by the chestnut trees of the State a few years ago. It is a real problem calling for organized effort, as well as the control of the diseases of our farm, garden and canning crops.

Weed Control

In passing, I can only mention that very few of us realize the problem which is before us constantly in effective control of weeds. Very few of us fully appreciate the loss that is sustained by Maryland agriculture and our own individual share in that loss, due to our inattention to weed control. This is a matter that could well be taken up by our organization and the injury and loss materially reduced.

Economic Problems

Strictly speaking, I suppose that the problems to which I am about to refer should not be termed "economic" problems any more than those I have just mentioned, because anything which affects the well-being of the people is, in reality, an economic problem. However, there is a tendency to think of some of the factors which affect our industry in its broader aspects as being more strictly economic than the factors that have to do more directly with the production of products.

Taxation

This problem has always been on our doorstep and probably will continue to linger near us. It really is a matter of gratification to speak of it at this time, however, because of the progress which has been made in this State during the last year and the important part the organized agriculture has had in that progress. I believe it can be said truthfully

that in no other State has greater improvement in the tax situation been achieved than in Maryland, and I congratulate the Farm Bureau and the Grange and our Government and Legislature for the effective and constructive work they have done in that line.

Of course, the final solution of the problem has not been reached. If, perchance, a solution ever should be reached, it will require change and adjustment from time to time, in accordance with changing conditions. The farmers of the State and the farming interests have an important stake in our taxing system and it is eminently proper that they should constantly study the many issues involved and exert their influence toward development of measures designed to distribute the tax burden in a fair and equitable manner. Only through the medium of organizations such as this and the Grange can this be achieved and I urge that your efforts in the field of taxation be continued and expanded to the extent that is possible.

Farm Credit

This problem has been on our doorstep for a long time, although not as acute with us as in some sections of the country. We are fortunate, we believe, in the set-up of the Farm Credit Administration. We are cooperating vigorously with this agency in our State in establishing the facilities which we hope will provide satisfactory credit for all phases of the agricultural industry. It will require much education on the part of all concerned and I believe we should consider it a problem at this initial stage of the year, so that none of our people will suffer for adequate finances.

We must recognize that the Government does not intend to make loans in the way it has done the last few years. We are hopeful that the formation of Agricultural Credit Associations in our territory will furnish the necessary means whereby farmers may be able to help themselves by cooperative effort in these associations.

We are pleased to have the cooperation of the bankers throughout the State in this endeavor. The Credit Associations could help our banking interests, as the Farm Loan business has so ably done during the recent financial difficulties.

The Tenant Problem

I cannot omit in this discussion some reference to our long-time tenant problem, which has been on our doorstep for many years. Many surveys have been made and efforts directed toward correcting this situation in different sections of our State. It still remains a problem. The present relationship between tenant and landlord is causing loss to both. Nothing could be more constructive than for this organization to undertake to find a solution for this problem upon a basis that is equitable to both tenant and landlord. The new conditions facing agriculture today make the consideration of this problem more urgent than heretofore. May we not inaugurate a constructive movement through organized effort to correct some of the features of our present system which are unsatisfactory or unfair to one or both parties of the landlord-tenant relation?

Contracted Acreage

The special campaigns for controlled production of certain crops have placed on our doorstep a problem with which we have not before been confronted. It is a problem of utilizing in the most practical manner, and in accordance with the agreement, the acreage which farmers have contracted with the Secretary of Agriculture to take out of the production of certain basic crops. In this State we have contracted to take practically 43,000 acres out of wheat and perhaps a similar acreage for corn, with a smaller acreage for tobacco.

The contracts with all these crops require that the contracted acreage be taken out of production of the basic crops named in the adjustment Act. The following provision is made:

"The contracted acreage of 1934 and 1935 shall not be used for the production of any nationally-produced agricultural product for sale, but may be used as follows: Summer fallowed; planted to soil-improving or erosion-preventing crops, or to food crops for home consumption on this farm, or to feed crops for the production of livestock (or livestock products) for home consumption or use on this farm."

I believe that this presents an unusual opportunity for us to encourage greatly increased planting of alfalfa and other perennial grass crops that will serve to reduce our requirements for other feeds for, as a general principle, our farmers are buying too much feed.

This is particularly true in the dairy industry. While we are enthusiastically supporting the Administration's policy for controlled production, yet we must realize that we are not even now producing adequate feed for our livestock. We, at least, should use this opportunity, when farmers must utilize this land for crops other than wheat, corn, tobacco, etc., and we should take the lead in preparing this land for future production of leguminous hay and pasture.

Foreign Markets

As mentioned previously, the success of Maryland agriculture is dependent upon factors that are national and international in their scope, as well as those confined to our own borders. The severe curtailment of our foreign trade has had its effect upon our people, as well as those engaged in this industry elsewhere. Reduction of the export of wheat, for example, from 200,000,000 bushels a year to 40,000,000 last year greatly affected our producers.

A large percentage of our apples are exported. Last year more than 80 per cent of the inspected fruit was shipped abroad. Sanitary requirements, tariff duties, quotas, and other barriers, have greatly restricted the export of our products. This is a problem that should be discussed thor-

oughly by our people and expression given to our national representatives, with a view to facilitating the exchange of our products for those of European and South American countries. We hope that the efforts of the present Administration to negotiate bi-lateral agreements with foreign countries will be fruitful in results. It is an important problem that we should follow very closely.

Cooperative Selling and Buying

Marketing and distribution of our farm products is a very live issue, particularly in these days when the margin between profit and loss is so narrow. We have made commendable progress in the formation of commodity cooperatives, but we have only made a start in that direction. Organized agriculture and educational agencies should constantly stress the importance of cooperation in selling farm products and the benefits to be derived therefrom. This involves business management, grading and salesmanship. An effective attack upon this one problem would greatly increase the resources of our people. Agencies have been set up for handling some of the major products of our State. They need and deserve our support and we should try to enlist the sympathetic response of our farmers throughout the State in this endeavor.

There is an acute problem presented to the tomato growers and canners at the present moment. The issue is to maintain a reasonable pack of tomatoes in the country. A proposal was made recently, looking toward the cooperation of farmers and canners in eliminating the open market acreage. Many of us feel that this would tend toward stabilization in the industry. We are hopeful that the tomato growers and canners of this area may unite in a marketing agreement, with reasonable allocation of acreage, and that those of other sections will likewise come into agreement with the approval of the Secretary of Agriculture. This will affect a large number of our producers, but I believe that it will be very helpful to the tomato canning industry of our State.

Passing from the problem of selling farm products cooperatively, I might similarly urge the cooperative purchase of large farm supplies. We have an effective organization and it only remains for the farmers of the State to give it more thorough cooperation in order to have it serve them to a much greater extent than is the case today. This is a very concrete problem that we should approach.

Transportation

The problem of adequate transportation is of eminent concern to all interests in all sections of the State. There are numerous angles to the problem as a whole and the expenses involved in constructing and maintaining our various transportation facilities are staggering in their enormity. An organization such as this might well provide for keeping its leadership and membership informed as to proposals for large new expendi-

tures, and for exerting its influence with regard to their desirability or undesirability.

At this time, it is my purpose to direct attention to only one phase of the transportation problem—a phase which confronts us for immediate solution. I refer to the tremendous change that is taking place by virtue of the movement of farm products by motor truck. Stated specifically, there are two problems that deserve attention at the present time. In the first place, the movement of farm produce by motor truck, as now conducted, is a disorganized movement, especially in the case of perishable products. As now operated, it does not permit of as intelligent distribution as was possible when farm produce was sent to market by rail or boat. Then the growers or shipper had a pretty definite idea of the supply of such products at, or enroute, to the principal markets. Now, with the movement of these products largely by truck, no one can tell with any degree of certainty just what is or may be the supply on any market at any time.

The second problem is due to a lack of uniformity in state regulations and licensing of motor trucks doing a commercial business. This is resulting in a number of complications in some sections of the State and a proper solution is of direct interest to growers of products that form a considerable part of the business done by trucks.

Whatever may be the sentiment regarding the advantages or disadvantages of movement by motor truck, apparently it is here to stay and has become a definite part of our transportation system. It remains, therefore, for organized agriculture to cooperate with State and Federal authorities in seeing that its operation is such as to bring the greatest benefit to all concerned. It would seem that before new or additional legislation by the several States is sought the whole question of transportation, particularly that affecting agriculture, should be studied carefully and suitable regulations, uniformly applicable in the various States, should be adopted. Such regulations could adequately serve the producer handling his own products and at the same time be broad enough to permit the free and easy movement of produce into channels of trade. They should prevent the unorganized type of movement which at present, at least in some cases, is resulting in detriment rather than benefit to the farmer.

Whether or not the Federal Government should attempt to regulate the truck movement at this time is a debatable question, but it does appear that it would be mutually advantageous to all concerned for the several States to cooperate to the fullest extent in drafting uniform regulations for motor truck transportation.

State Planning Commission

This new agency, erected by the last General Assembly, presents an opportunity for organized agriculture to present constructive plans for the future development of the industry and the State. While agricultural planning was not mentioned specifically in the Act creating the Commission,

I feel sure that the members of that body will welcome any constructive suggestions that agricultural organizations and agencies may suggest.

The Farm Home

There are many problems affecting the farm homes of the State which our organization should consider. The depression in agriculture has had its effect upon the home. Probably it is fair to say that the mother has had more difficulties in carrying on under present economic conditions than anyone else in the family. In a vast number of cases, she deserves unlimited credit for the ability and ingenuity she has displayed in maintaining the clothing and nutrition standards she has maintained under the greatly reduced budgets. Dr. O. E. Baker, of the United States Department of Agriculture, who is one of the outstanding economists of the country, pays a high tribute to the home-makers for the successful manner in which they have adapted the diets of their families to the changed conditions.

The women in the homes have been forced to go without many conveniences that they desired and needed. Sanitary improvements could not be made. It has been difficult for many families to maintain their standards of living under the conditions that have prevailed on many farms.

We are now conducting a survey, in cooperation with the Federal Government, for the purpose of ascertaining some of the shortcomings in equipment in our farm homes. It is hoped that the information obtained will prove of value by way of furnishing a basis for constructive activities at such time as conditions permit.

Leadership

Time has not permitted reference to this problem, which I know you appreciate so thoroughly. It is an ever-recurring problem, but I will refer to only one phase of it, namely, its aspect as regards the boys and girls on the farms. It is a platitude to say that the leadership of this organization and of all other affairs in the agriculture of the State will in a very few years be in the hands of those who are now boys and girls on our farms. We cannot think about the future of our State without thinking in terms of our youth. The leadership of our organization must necessarily be such as to inspire and appeal to the ambitions of the potential leaders among those who will succeed us. The future of the organization demands that we give all the opportunity within our power and our whole-hearted support to 4-H club work and vocational instruction work and other means for developing the leadership of the future.

Conclusion

Obviously, it has been necessary in carrying out instructions from your worthy secretary to cite problems which vary in their complexity and immediate importance, some of them being much more acute than others, and yet, they are all associated with the success of our agricultural industry. As such, they should be of eminent concern to the State Farm Bureau

Federation, as they are to all of our educational agencies and the Extension Service representatives.

We believe that the time is ripe for making a further appeal to the farmers of the State to seriously consider some of these problems. We have been impressed with the response of farmers generally to the campaigns for control of production. They have manifested an interest and have done their part in a very effective manner. It makes me hopeful that under the new conditions we may be able to arouse interest and enlist united effort in our several counties for attacking some of the problems which are of most direct concern in the respective areas.

I have mentioned only a few perhaps of the most outstanding problems. Many others could be cited that seriously affect the income and outgo of our farm population. May we all renew our faith in this fundamental industry and contribute our part toward its proper and successful rehabilitation.

PROBLEMS ON OUR OWN DOORSTEP

Some of the more important problems confronting the people of Maryland and the agriculture of the State may be listed as follows:

1. Enlistment of a larger percentage of farmers in the farm organization movement.
2. Better utilization of our natural advantages for a safe agriculture.
3. Proper utilization of land. Adjustment of marginal and sub-marginal lands.
4. Intelligent adjustment of the dairy situation, reduction of surplus with fair price to producer and consumer.
5. Control and elimination of Bang's disease in our dairy cattle.
6. Cooperation of producers and consumers with State and City agencies in setting up health and other regulations for sale of farm products.
7. Greater consideration of the serious losses by disease and parasites of our livestock.
8. More active interest in control and spread of Japanese Beetle, the Dutch Elm Disease and the White Pine Blister Rust.
9. Cooperate with the Farm Credit Administration in the utilization of credit facilities established to meet all phases of the agricultural industry.
10. Adjustment of the tenant problem in fairness to landlord and tenant.
11. Develop the best use of land contracted in crop reduction programs.
12. More vital interest in the foreign market situation. Support of reciprocal trade agreements with countries taking our products.
13. Development of foreign markets for our special products, such as sweet potatoes.
14. Greater effort towards enlisting farmer support in cooperative marketing of farm products and in purchasing farm supplies.
15. Secure general adoption of U. S. Grades and Standards in marketing farm products.
16. Secure greater uniformity in State regulations and licensing of motor

trucks and correct the disorganized movement of farm produce, especially perishables, by truck.

17. A continued study and adjustment of the tax question, especially on real estate.
18. Greater consideration to improving the farm home and lightening the burdens of the homemaker.
19. Develop capable rural leadership as an inspiration to the rural youth and as an aid for social improvement in country life.
20. More active interest in adjusting and carrying out the comprehensive agricultural program for the State.
21. Concerted effort to improve the quality of our farm products in order to satisfy the consumer and successfully meet competition in our Eastern markets.
22. Greater interest and more extended utilization of certified seed in all crops.
23. Greater attention to costs of production of livestock and crops as a sure means of making profit in the agricultural enterprise.
24. Reducing our annual feed bill of seven to eight million dollars by the production of more alfalfa and other forage crops.
25. More sympathetic attitude between producer and consumer in the interest of both.
26. Better understanding by the press, especially city, of the problems of the farm and the manner in which they can be adjusted.

MR. NUTTLE: We will now have the presentation of medals to Vocational Agriculture Boys.

MR. BLACKWELL: Dr. Symons said that most of the speakers this afternoon have read speeches. I assure you that I cannot make up a speech. I am going to let these boys speak for themselves. I want to say one thing in appreciation of the splendid cooperation which has existed in the different branches in the State along the line of agricultural work in High Schools. I want especially to pay a high tribute to the Farm Bureau. I want, however, also at this time to thank the other organizations, the different agricultural organizations throughout the State. A little while ago Dr. Symons referred to these boys as the future farmers of the State, and that is just what they are. You have done a splendid work to develop these boys. The resolutions passed, not only in your State meeting, but also in your National meeting helped.

Now, I am not going to take up your time in discussing the real need for this work. This group which you see before you represents the 60,000 F. F. A. boys. F. F. A. stands for the Future Farmers of America. In Maryland we have 1,500 boys enrolled in forty-five different schools. In the United States there are 4,000 chapters of the F. F. A. These 1,500 in Maryland are some of the most representative. It has been my good privilege to visit 575 schools.

In conclusion, I want to say this—we feel that each year the inspiration that is given these boys by visiting here and being at a Farm Bureau meeting is one of their greatest inspirations. We want to thank you for making these visits possible.

LIST OF WINNERS IN THE MARYLAND FARM BUREAU F. F. A. PROJECT CONTEST FOR 1932-1933

Project	Rank	Contestant	High School	Award
Dairy Calf	First	G. Richard Bidle	Middletown	Gold F. F. A. Medal
(Phila. Milk Shed)	Second	Louis Ahalt	Middletown	Silver F. F. A. Medal
	Third	Paul V. Horine	Middletown	Bronze F. F. A. Medal
Dairy Calf	First	Donald Wright	Jarrettsville	Gold F. F. A. Medal
(Baltimore Milk Shed)	Second	Clifford Smith	Jarrettsville	Silver F. F. A. Medal
	Third	Donald Anderson	Jarrettsville	Bronze F. F. A. Medal
Dairy Calf	First	Donald Eaves	Walkersville	Gold F. F. A. Medal
(Washington Milk Shed)	Second	Melvin Glover	Gaithersburg	Silver F. F. A. Medal
	Third	Jonathan Iert	Damascus	Bronze F. F. A. Medal
Baby Beef	First	Joseph Golt	Centerville	Gold F. F. A. Medal
	Second	Eugene Nail	Emmitsburg	Silver F. F. A. Medal
	Third	James Reynolds	Centerville	Bronze F. F. A. Medal
Poultry	First	R. Milton Anderson	Jarrettsville	Gold F. F. A. Medal
	Second	Ellsworth Iager	Clarksville	Silver F. F. A. Medal
	Third	August E. Lackey	Liberty	Bronze F. F. A. Medal
Sheep	First	James R. Twigg	Oldtown	Gold F. F. A. Medal
	Second	Kenneth Renner	Boonsboro	Silver F. F. A. Medal
	Third	Carroll Miller	Boonsboro	Bronze F. F. A. Medal
Swine	First	Allen Smith	Frederick	Gold F. F. A. Medal
	Second	Joseph Istvan	Hughesville	Silver F. F. A. Medal
	Third	Billy L. Schaeffer	Poolesville	Bronze F. F. A. Medal
Corn	First	Charles R. Albright	Reisterstown	Gold F. F. A. Medal
	Second	Claude B. Graves	Gasva	Silver F. F. A. Medal
	Third	Charles E. Willey	Gasva	Bronze F. F. A. Medal
Potato	First	Boyd Hardesty	Oakland	Gold F. F. A. Medal
	Second	William Wildesen	Oakland	Silver F. F. A. Medal
	Third	Harry Porter	Oakland	Bronze F. F. A. Medal
Tobacco	First	Ray St. Clair	Gasva	Gold F. F. A. Medal
	Second	John Wathen	Gasva	Silver F. F. A. Medal
	Third	Garth Bowling	Gasva	Bronze F. F. A. Medal
Tomato	First	Columbus Reid	Vienna	Gold F. F. A. Medal
	Second	James N. DeCecco	Vienna	Silver F. F. A. Medal
	Third	Julian Brinsfield	Vienna	Bronze F. F. A. Medal

MR. BLACKWELL: I want to add that these medals this year are all awarded by the Maryland Farm Bureau, for which we are very grateful. After awarding of the medals the meeting adjourned.

WEDNESDAY EVENING SESSION

JANUARY 10, 1934

MR. COCKEY, presiding: We are very fortunate, indeed, tonight to have with us probably the best friends of agriculture that we have. We have our good Governor, Albert C. Ritchie, who has never failed the farmers in Maryland in any request that we have ever made to him. I now take great pleasure—I know it is not at all necessary for me to introduce him to you—our good Governor, Albert C. Ritchie.

GOVERNOR RITCHIE: Mr. Chairman, Secretary Wallace, Mr. Cole, distinguished guests, ladies and gentlemen: I am happy to say that I am here tonight in the part of a listener and in the part of a learner, not in the part of a speaker. I am glad of that, because as I was told the other day by a gentleman who was in the habit of preparing his speeches, that he now found it impossible to prepare anything in these days, that the changes which were taking place in Washington were so kaleidoscopic and so rapid-fire that anything that he prepared one day would be out of date the next day, so I am confining myself to the very pleasant task, on this very important and very vital occasion which brings you together, of presenting to you the distinguished gentleman who is our guest tonight.

Now, many of these kaleidoscopic changes, I am bound to confess, have not all accorded with the things I was taught when I was brought up, and yet I know perfectly well—I am able to recognize, as you are, when an emergency arises which strikes at the very heart of our social and civic and economic life, and I know that when an emergency of that kind does confront us, that the only way to get the best of it is to do it by emergency measures appropriate to meet the crisis. This emergency has affected the farmer to a very great degree, but aside from that, and even before that, we have been living in an era for the past decade or two in which the farmer was more and more awakening to the necessity of cooperation. Labor was organizing, and the farmer began organizing, and we saw that in the marketing agreements, the cooperative buying agreements and other kindred things which the farmer has adopted, and so many of these things have been accepted by the people of this country and by the Government of this country—production control, supervision over agriculture—all of these things have become an accepted part of the recovery program of the great President of the United States, who many of us feel was providentially sent in order to meet our crisis.

Now, perhaps many of us would feel at least some little concern, and some perhaps more concern, about some of the steps which are part of the forward recovery movement for agriculture if we did not have complete

confidence in the leaders of that movement. That is especially true of the Department of Agriculture, and it is especially true of the distinguished Secretary of Agriculture. We know his life, the time he was born on a farm in Iowa. I think we know the farm, the agricultural background which he has had, and we believe in him, and we have confidence in him, and we know that his presence at the head of that great Department is an assurance that no mistakes are going to be made in the movements which are inaugurated. He has himself, for many, many years, been a leader in that general movement which appeals to all of us, namely, a leader in the fight for the equality of agriculture. Other activities, other lines of work have outstripped the farmer, and the thing which the farmer has been trying to get, and the thing which he deserves to have is equality in the earnings and the revenues of his business activity with the earnings and the revenues of other business activities. We believe that he is on a fair way now to get that, and if he does, when he does, a great part of the credit will be due to the gentleman who has devoted himself to that ideal and that doctrine all of his life—the gentleman who it is now my very great pleasure and privilege to present to you, the Honorable Henry A. Wallace, Secretary of Agriculture.

ADDRESS BY SECRETARY OF AGRICULTURE

HENRY A. WALLACE

SECRETARY WALLACE: Governor Ritchie, ladies and gentlemen of the Maryland Farm Bureau and visitors—and as I understand it, also the stockmen—I was told that a special block of seats was reserved for them tonight.

I count it an unusual opportunity to come here to talk to you. I feel that first I must say that we *are* going to make mistakes, Governor Ritchie's well wishes and declaration to the contrary. But fortunately, I have already stated in public that we would probably make a million mistakes in the course of the millions of contacts which we are making in one way or another with almost every farmer in the land, but I trust that our mistakes will be of the sort that will permit us to profit by the nature of the mistake, in order to consider the welfare of the whole.

I think I will divide my address into two parts:

First, because the livestock men are here and because they are in a most deplorable state, I will discuss the nature of their plight, and what may be done, and maybe discuss some of the broader aspects of the agricultural situation.

First, beef cattle men are probably in a more desperate situation today than any farmers have been at any time. The price of beef is lower; until quite recently it was lower than a year ago, when the cost of beef was very materially higher. I understand that one of the members of the Agricultural Adjustment Bureau told your convention—stood up for the

Administration in a very sturdy fashion. In view of the price that livestock is now bringing that man was probably one of the most courageous men in the United States today. It also indicated your forbearance in listening so politely to him. It happens that it has been my opportunity to study the nature of the beef cattle proposition for a great many years. I am Secretary of the Beef Breeders & Producers Association in Iowa, and have been for many years, and I have spent years studying the nature of the cattle proposition. It became apparent to me more than twenty years ago that there was a decided rhythm in beef cattle production—seven years up and seven years down. This won't be of any particular consolation to you when I say this, but in 1928 I stated in the paper of which I was then editor, that a decline in beef cattle prices would begin in 1933 which would be breath-taking in its nature—that is almost an exact quotation. I can verify that. Now it is no consolation to you for me to say "I told you so"—that does not help. Why was it that I felt that there would be a breath-taking decline in 1933? Because of the fact that at the time I wrote, beef cattle prices were relatively higher than most any other farm product, and had been for several years. I knew from a practical study of the beef cattle situation when that took place, five to eight years ago, there was a real over-production of beef which would bring about a real decline in prices. We see that same thing again and again in what we might call the cycle.

Now, what are we going to do for the beef cattle people? Beef cattle are not a basic commodity in the Adjustment Act. We have suggested that they be added as a basic commodity, and that would give us an opportunity to help you more. Unfortunately, in the case of some of these perishable commodities, there is a tendency for a part of the processing tax to be passed back to the producers, but if you put a processing tax on beef cattle, it would lower the price of beef cattle to some extent. The tax might be used to pay a benefit payment to those who cooperate in controlling the production of beef cattle under governmental direction, and the disposal of inferior or diseased cattle, but the result is temporarily to increase the amount of beef on the market. A reduction program for beef cattle does not act in the same way as the corn program; it is not as simple as increasing the price of cotton. So, I am not at all sure that the beef cattle men will want any very great processing tax placed on beef cattle until they have thought that through very fully—they may not think it wise to have beef cattle put in as a basic commodity. The working out of that plan is not in any way simple.

It has been suggested by some of the farm leaders—and the bill is now about to be brought before Congress, whereby \$100,000,000 be appropriated from the general treasury to buy cattle, she cattle, to deal generally with the beef cattle situation, and that money might be used to bring about the reduction program during the early stages, and then have the processing tax. Now, I think probably in a general audience of this sort, it is not advisable to go into that question in any very great detail at this time.

Doubtless seven-eighths of you are not interested in beef cattle, so we will proceed next with the dairy cattle, where the situation is somewhat similar.

As we examine the past cycles of both dairy cattle and beef cattle, they tend to some extent to resemble each other—seven years up and seven years down. I am speaking of the country as a whole, not one specific city where unusual conditions arise, but those specific cities are in the long run bound to be greatly affected by the general dairy situation.

So far we have had no processing tax whatever on dairy products, although a small processing tax will have to be invoked sooner or later, to take care of that temporary butter stabilization which was entered into to carry the situation up until the purchasing power presumably would increase. We have attempted thus far to handle the dairy situation only by marketing agreements, and we have learned a lot from those marketing agreements. There have been many different kinds in many different cities. We are directed under the Agricultural Adjustment Act to bring prices of the basic farm commodities up to fair exchange value—up to that relationship which existed from 1909 to 1914—as rapidly as feasible.

In the exceeding eagerness to get milk prices up, many mistakes were made—the prices of milk in some cities were relatively higher than others; in some cities the prices were high enough. There was an increasing amount of surplus milk, and then going into butter, causing a surplus of butter, and not acting to stabilize the price of milk or butter. You must remember that it is not our duty, not our intention to take care of any particular city according to its requirements; we cannot administer a particular city in the way that city would want. The dairy proposition is a whole picture, a complete picture, because we are trying to do a Federal act, not a State or city act. We have to consider the relation of city to city, not just one city. We want to get the price of milk and butter as high as possible, but you can see what I mean. The purchasing power must also increase, must not get out of line. The purchasing power is being increased as rapidly as possible, if you will only use a little patience.

We may find it necessary to re-examine our dairy policy. I would be most happy if I felt I had the time available this evening to go into further details on that, but I would suggest to those of you primarily interested in dairying, that you center your attention as rapidly as possible on a sound means of production control, one that will really do the business. So many of you have the faith that you can just simply fix prices—that is all, that will do it. It is really a much bigger proposition than that.

I am happy to say that we have had the counsel and advice of the Production Committee of the National Milk Federation, and that we have worked out a plan which I think will control dairy production in line with city consumption, and we will announce that plan perhaps next week. And like all our production control plans, unless the producers want it and will cooperate with it, it may not succeed. We have so far found it a little difficult to get an agreement on the part of the dairy producers as to the particular price of so many different cities over so many different

localities. They must not keep the local point of view, it takes so long to develop a viewpoint that will grasp the whole situation. The livestock situation is, I think, going to cause us real trouble for another six months or a year. You have got to get the city payrolls up, and also it is necessary to take care of the over-production, which has been increasing for some years. The livestock situation in the very nature of it cannot be brought under control as rapidly as grain, but we hope to have a program soon.

Now, I would like to have you consider with me the five alternatives to the processing tax. It is quite possible that certain interests may try to eliminate the processing tax in Congress. I do not know whether any such thing is in the offing or not. I understand, however, that certain interests want to do away with the processing tax.

It is important to think about these alternatives, so if the processing tax is going to be done away with, in case we want it eliminated, to have something else to offer. The first alternative would be to take money for benefit payments out of the general treasury,—that is, taking it from the general treasury instead of getting it from the processing tax. I happen to have a friend, a millionaire, who lives in the Middle West, who produces great quantities of wheat. This man, a millionaire, thought it much better to have the money come out of the general treasury, in fact, to let the income tax payers pay it, instead of having it come from the poor man. That is the way one millionaire felt about it. It is a question whether the New York millionaires, or the Detroit millionaires would agree with him.

Now there is this question: When you get money out of the general treasury you may not handle it quite as carefully as when it comes from the processing tax, and it is for that reason that many people think it would be better to stay by the processing tax rather than take it out of the treasury. But if we do that we must be sure to get enough appropriation to take care of the job. The second alternative would be to have a substantial increase in imports of goods from foreign countries, foreign purchasing power would be re-established so that we would not have to cut down our acreage of cotton by ten or fifteen millions of acres; or our wheat by ten or fifteen millions of acres. We kept nearly fifty million acres of average crop land on the foreign market. Of course, we have not actually been shipping to the foreign market during the last two years, but the land is there, it has in the past been producing products to be sold in the foreign market. When the tariff was changed in 1930, that market disappeared; and the question now is whether or not that market can be restored by greatly increasing imports.

We loaned during the period of 1921 to 1929 an average as I remember of about \$700,000,000 a year to foreign countries, and in order to take care of the interest on debts abroad due this country, and in order to furnish a moderately good purchasing power for wheat and cotton and tobacco, it was necessary to bring into this country at least \$700,000,000

more goods in excess of what we imported. That was the case during that period of 1921 to 1929. I think there is a lot to be said for this solution, and a lot to be said against it. Now, I know there are many people in this room in favor of very high tariff, and they could put up plausible arguments for it, and I do not care to quarrel with them particularly, but I do want to drive them in a corner so when I have completed my analysis, they can be ready, if they can, to answer me. We must be ready to see that this thing goes through in a thoroughly workmanlike fashion, or see that we get enough money out the general treasury to see that they do the work. The third alternative would be a long-time land policy, a very extensive buying of marginal and submarginal land by the Government, perhaps seventy-five millions of acres. Now, is a long-time program following the nationalistic policy one of the most sensible things to do? That would require \$1,000,000,000 of government money, or a little more to buy up seventy-five million acres of marginal or submarginal crop land. It seems to me that our present plan of a processing tax and the retirement of acres by means of contractual allotments, might well be merged as rapidly as possible into a long-time government land-buying program, but it would be a very much longer proposition.

Governor Roosevelt, when governor in New York, worked out a real submarginal land program. It was a very complicated affair,—a very fine thing. It means, of course, getting a very large sum of money out of the Government treasury, take perhaps \$100,000,000 a year as the land is bought, but that does not help the present farm emergency.

One of my friends who is very much interested in this approach suggested a very interesting thing—he said—what might really become a reality—when a considerable area of this land is purchased, people that have been on that land leading a rather miserable life, with an income of perhaps \$200 a year—those people be allowed to continue there, be given perhaps five or ten acres of land, have a cow, a garden for themselves, and do one hundred and fifty or two hundred days of work a year in re-foresting that land or raising corn or grain for sportsmen, building cabins where sportsmen can stay, taking care of hotels of a rather modest sort, transforming that land into a place where people could go for sport, etc., which would eventually pay for itself. However, I do not care to argue along that line, it seems just a rather active pipe dream which has in it a certain amount of suggestion.

Now, a fourth alternative to the processing tax is that alternative suggested by the five midwestern governors, which has been taken up in certain quarters by people anxious to get rid of the processing tax. I find it interesting at times to watch the way some of the most conservative interests and the most radical interests get together. This scheme concerns compulsory controlled license of plowed fields. That field where you have been planting forty acres of grain would be licensed to plant thirty acres. It would mean every plowed field with its license, every plowed field with its permit sticking upon a post; all marketing han-

dled in a compulsory fashion, every farmer with his punch card. I think that sort of thing could doubtless be made to work if this nation wants that kind of thing. We are now relying on voluntary cooperation, some of us who are trying to work this job wish at times we could just simply issue an order and have it carried out, it would be a very easy thing to do, but is it that simple? It involves considering those great differences in different localities. It would mean that the farmers around Baltimore could only market in Baltimore, not in Washington, there would be no more shopping around for markets. At least, it does away with the processing tax. Some of them would like to have it done this way if they could get rid of the processing tax.

The fifth alternate is to go back to the same state we had in 1931 and 1932 of just drifting along. Why do I say 1931 and 1932 instead of from 1920 to 1930? I say that because from 1920 to 1930 was not a fair time to judge by, it was a very artificial era, not a fair sample. But in 1930 up to 1932 the situation began to drift down partly because of the tariff. Now if you want this drifting, we can do that if we want to do it.

Now, if any of you can think of any other alternatives than these five, or if any of you have any very pronounced convictions as to which of these alternatives you prefer, I wish you would write me down in Washington, referring to this evening we have had here in Baltimore. I would really like to get your opinion. Do you vote for the processing tax, or for one of these five alternatives?

The big thing which I want to convey to your minds is this—that we cannot continue to wobble along, to work with half measures much longer, we have to decide where we are going and follow the policy we decide on in a determined way. I feel that we have not yet finally decided what to do, that what we are doing with the processing tax and the retirement of acreage has still to be looked on as a rather temporary measure. We have to decide whether or not we are going to take hold of this important question in a determined fashion. I feel that not one American in a thousand realizes the magnitude of the problem which must be solved. If we continue on this retirement of fifty million acres by means of the processing tax, do you realize what it means in the way of shifting population? If you consider all the ramifications, we can handle them if we are willing to pay the price and see it through, but if we decide to go, let's go and stay by it. The forces that were set in motion by the world war are so great that there is simply no easy way out. The quicker we realize that, the better we will be; we will stop hopping from one hot spot to the other. We have got to lose the idea of getting the best of the other man, stop chiseling each other. The amazing thing about all of this is that with modern science and the methods of massed production, we have the capacity of putting such an enormous quantity of stuff out, that once we have settled down in a determined fashion and decided to go somewhere we can have twice as much goods per capita to consume as we have ever had. That is the easiest thing in the world to do once we have decided what we want to do, and really do it.

All of this has to do with the human heart, having the will and the desire to enter into an understanding, cooperative commonwealth—I am not talking about communist socialism, I am talking about Christian cooperation—Christian Socialism, if you want; I do not object to a term of that sort. If we find that, we can have a standard of living far beyond any that we have ever had. But we will have to forswear the habits of mind which you and I and all of us have had in the past. I do not think this generation can do it. I am stating that in a challenging manner. I think this generation is just like the children of Israel when they came to the promised land. They left Egypt, they got out of Egypt under Moses and came to the promised land, and yet within a year, less than a year, they got to fighting amongst themselves, when they could easily have gone in and taken possession. They had to wander for forty years in the wilderness when they were all the time in a position to go right in and take possession of the promised land. The question before us now is whether we are going to wander forty years in our wilderness, or whether we have a human understanding, whether we are able to learn, whether we are able to reconcile ourselves to the fact that the pioneer days really have gone, the rule of the survival of the fittest no longer controls. That has been superseded by the law of cooperation, and you can talk cooperation all you want, if you cannot change the human heart, it is lost. We must understand that the days of dog eat dog are over. When we once really understand that, we can come into the promised land and take possession.

Under the Agricultural Adjustment Act, we have millions of contacts necessary to put the whole campaign over, and necessarily with so many contacts there must be many, many mistakes, but do not throw out all of the good because of the mistakes. We must learn a kind of social discipline. Just consider the whole as a picture, not only one small part, take the whole picture. Social discipline is necessary in every place for a truly cooperative commonwealth, if our government is really to function properly. Now, if the farmers would only cultivate this same social discipline when they come in contact with their County Commissioners, which in turn have the contact with the Federal Government, in the same spirit that they drive automobiles, exercise those powers in the same cooperative spirit, you can build up a new religion—if you please—a new spirit of cooperation. A feeling of that sort can bring us in the way not merely of material prosperity, but in the way of extraordinary spiritual outlook, when we shift the point of our interest from beating our fellow man to cooperation with him. As we actually learn the cooperative spirit—a desire to help the other man—follow out the teachings of the Sermon on the Mount—I am sure those of you interested in the doctrine preached in the Bible, will find abundant warrant for that approach in the Bible. There was a time when it was well for our pioneer forefathers to follow the harsh doctrine of the Jews—that doctrine of every man meeting his God face to face, to go out and conquer those difficulties of the frontier,—but it is time now to take the higher doctrine of the Sermon on the Mount, if you please, and make that work for us.

THURSDAY, JANUARY 11, A. M.

FARM DEBT CONCILIATION CONFERENCE

MR. COCKEY, Presiding

MR. COCKEY: This is the Farm Debt Conciliation Conference. I believe I am Chairman of the State Committee. This committee is composed of six members in different parts of the State to suggest to the Governor the names of the County Committees, which we did. That is as far as we have functioned. We have no knowledge at all as to what the counties are doing. This morning I heard from Mr. Nuttle, of Caroline County, that fifteen applications had been filed there. Now it is getting late, and we have a lot of other things to do so we might as well get down to business. We have here with us in this room one man "Case," one "Work" and one "Winn." Mr. Case, you can tell them who you are.

MR. CASE: I think your chairman is taking a long chance. A Case may turn out any way. I have not come here with any idea that I know of debt problems in Maryland. Up to three months ago I was in the State of Illinois, had been working with the State Debt Conciliation Committee there. We had troubles out there that you people never will have in Maryland. We are in the heart of the area where farm values went high during the war, and the people have not yet got over the effect.

Now we are trying to work with the debt problems as we find them in the different sections of the country. We are taking strictly the voluntary approach, trying to work out the problems in that way. We will talk things over now and get out of the meeting as much as we can. I want to bring to you some of the experiences which we have had in other parts of the country and you can apply the things which you see may be of help to you in your own State.

The importance of farm-debt adjustment work arises from the fact that no two farm-debt situations are alike.

It is the expression of farm mortgage creditors generally that every farm-debt case must be handled on its merits. I am sure that farm debtors themselves will voice the same thought. The seriousness of the farm-debt problem arises from the fact that while farm prices have gone downward the last few years, the farm indebtedness has continued to rise higher, which is well illustrated in this chart. This chart shows that farm prices rose rapidly during the period 1917 to 1920, but that the total farm indebtedness rose equally as rapid. From that point, however, the farm indebtedness continued upward until it equaled almost three times what it was in 1910. In fact, it would have equaled three times the 1910 farm indebtedness had it not been for the fact that many properties were foreclosed or were deeded over to creditors. This means that in many in-

stances individual farmers will be unable, even with farm prices where they were in the pre-war period, to meet their debt obligations.

It is true that we have a legal means of settling difficulties when it is impossible for the debtor and his creditors to get together voluntarily in an equitable agreement. The depression we have been in for so long a period of time has brought enough distress without trying to settle all of our difficulties by legal process which so often leads to unnecessary distress and cost.

Our National farm-debt conciliation program or our farm-debt adjustment program aims to settle out of court these debt difficulties for which neither the farm debtor nor his creditor is responsible. I am sure all of us prefer to avoid court action, with the uncertainty, the delay, and the impersonal, cold-blooded decisions which must accompany it. Most of us are unfamiliar with technical procedure and do not understand many decisions after they are made. From the standpoint of the community, forceful action may result in ill feeling, unnecessary costs, and accompanying distress of many kinds. Personally, I have a high regard for the judgment of sensible people which may be found in any county in settling many perplexing problems on a friendly sensible basis.

I would like to think that in any community we have public spirited men who are willing to take time to help their neighbors adjust their difficulties. A committee, for example, of five carefully chosen people in the community who are acquainted with business procedure and with agriculture are likely to arrive at a better conclusion as to the best means of settling a debt difficulty than is a court which is not acquainted with the individuals concerned and frequently is not well versed in agriculture. It seems to me, therefore, that settlement out of court affords a friendly, informal, personal approach which affords the opportunity of settling many cases in accordance with golden rule principles.

I have had occasion to think through rather carefully the steps which were taken in bringing some relief to the farm-debt situation in Illinois during the past year. Just how much good this activity did, we shall never know. I am convinced, however, that it has already done great good and will continue to produce good results. Nearly a year ago, shortly after he was inaugurated, Governor Horner issued a proclamation asking farm creditors in effect to be lenient with the debtor who was in distress through no fault of his own. That proclamation alone brought a great reduction in farm foreclosures and chattel mortgage sales, following as it did the forceful stopping of foreclosure sales and 5 and 10 cent chattel mortgage sales. Shortly afterward, Governor Horner called together a group representing both debtor and creditor interests which I think again assured both farm debtors and farm creditors that something would be done to help the situation. I believe that it was better to attempt this friendly, informal approach to the problem than to try to control it by legislation because of the varied character of farm-debt problems. A little later the appointment of a State commission to study the farm-debt prob-

lem which resulted in the appointment of farm-debt adjustment committees in a large number of the counties in the State, had the effect of helping to develop the right attitude on the part of debtors and creditors toward the whole farm-debt problem. It is my belief that this approach was much better than to have tried to gain the same ends through legislation. Several States passed legislative measures which if held constitutional would have kept lending agencies from making farm loans in those States. No doubt, we have all viewed with great interest the recent Supreme Court decision upholding the constitutionality of the Minnesota mortgage act. I think, while it is not my purpose to discuss legislation, that the Minnesota moratorium act was the most fortunate one that I know of for the Supreme Court to have acted upon as it sets up a higher degree of safeguard for creditor interests than did some of the other State acts which, as I said before, by their very form would have discouraged loanable capital from being invested within the State.

A point which I want to emphasize to make clear my views with regard to handling farm-debt problems without legislation is illustrated in this second chart which shows the share of the farm mortgage indebtedness held by different groups of creditors and helps us to appreciate that we are just as much interested in creditors as we are in debtors. From this second chart, we find that 63.2 per cent of our farm mortgages are held by insurances companies, the Federal Land Banks, Joint Stock Land Banks, and banks; also 36.8 per cent is held by individuals. I think we should appreciate that the mortgages of life insurance companies are made possible through the savings which have been invested in life insurance policies by people in our own community and even on the adjoining farm. In fact, some farm debtors who are in distress may be holding life insurance equal to their indebtedness. When you secure a Federal farm loan, you are not really getting the money which belongs to the Government, but the money which your neighbor has paid for a Federal bond. At least, this is true of Federal land bank loans. When a loan is made by a bank, that loan was made possible through the deposits of your neighbors. When we come to the loans made by individuals, very frequently they are our own neighbors who many times we thought were doing us a favor by lending us money. It is necessary, therefore, to have these thoughts in mind before we talk seriously of adjusting the indebtedness of any particular individual.

We all appreciate that in the past few years many men, due to no particular fault of their own, have had an accumulation of interest and principal payments, taxes and open accounts which they have been unable to meet from the farm income. The indebtedness of these individuals has continually mounted upward. Where the debt burden was already heavy, perhaps due to too heavy investments in farm land, the accumulated indebtedness has mounted more rapidly. Legally these people are subject to foreclosure. It seems perfectly clear to me, however, that if legal procedure was followed closely in all of these cases that it would have almost demoralizing effect upon farm values, the morale of people, and com-

munity values. It is my belief that perhaps even 90 per cent of our farm debtors who are in distress are the best men to continue to occupy and operate the farms they are on. I am also convinced that they will do a far better job in operating the farm as title holders than they would as dispossessed tenants. It seems to me that creditors should weigh any action that they can against farm debtors from the standpoint of what would be the result if all farm creditors took similar action. It was my privilege, not so long ago, to discuss this whole matter with representatives of life insurance companies representing at least the majority of farm mortgages held by life insurance companies. I want to say that their attitude was most gratifying. I have had expression from a large number of the officials of these insurance companies saying that they welcome the setting up of county farm-debt adjustment committees.

It was just about three months ago that Secretary Morgenthau, then Governor of the Farm Credit Administration, suggested to the Governors of the States that they appoint State farm-debt adjustment committees. As a result there are now 37 States that have named such committees. In fact, there are only two States west of the Mississippi River which have not named such committees. Mainly, the States which have not yet entered into this plan are the New England States where the land values are lower and the debt problem never became so serious. Further than that we have been informed that county farm-debt adjustment committees have been appointed in more than one thousand counties which probably represents half of the agricultural counties in the United States. These committees, in most instances, are just getting into operation. In the selection of these county committees, we have done all we could, and State committees have for the most part given very careful attention to selecting men who, to begin with, have the good will and confidence of both debtors and creditors. They are men who have already established a reputation of being fair minded and who desire to see fair play. I think it is clear in what has been said that the men selected should not be partisan in their point of view, but that they should take a judicial attitude in the cases that come before them and find out all facts before they pass an opinion on a case. It also requires men who are willing to sacrifice both money and time for the good of the community. This is a large responsibility because the satisfactory handling of the farm-debt problem has much to do with the future of agriculture in any community.

Suggestions to Committees

Now that county farm-debt adjustment committees are being set up in many States, it seems important that the State committees use every precaution to insure the most useful functioning of the local committees.

It should be clear that the local committees are directly responsible to the State committee and that the State or State committee is responsible for the conduct of the voluntary farm-debt adjustment work in that State. The Farm Credit Administration is merely in the position of adviser and

can only offer its best possible suggestions for the aid of the State committees.

Any committee should avoid public statements in the form of a resolution or condemnation of a practice of which they disapprove. Usually, it will be found that the best means of correcting a bad situation is to call the matter to the attention of the party concerned, if located in the county. If the responsibility for a bad situation arises outside of the county, a county committee may best call it to the attention of the State committee. On the other hand, a local committee should use the local press to keep the public aware of the committee's work. Publicity of cases handled, however, should avoid names of either debtors or creditors. Proper local publicity should make known the personnel of the committee so that debtors may know to whom they may make application for a hearing of their debt problems.

Extension agreements will be advisable in many instances which do not provide for a final disposal of the case. Most frequently an extension agreement will take the form of a plan providing for the distribution of the farm income between the various creditors. Such an arrangement will prevent such occurrences as foreclosure of farm or chattel mortgages, taking judgment on a note, or the payment of available income to the wrong creditor. Such an agreement in a sense "freezes" the existing indebtedness and provides for the distribution of the income the debtor can pay his creditors on an equitable basis. This probably can best be done on a percentage basis. For example, after necessary current living and farm-operating expenses and taxes are paid, a debtor may have \$800 left to pay his creditors. It might be agreed by the county farm-debt adjustment committee that such available income should be divided on the basis of 75 per cent to the first mortgage indebtedness and the remaining 25 per cent to chattel-mortgage holders and other creditors. Such a suggestion might be accepted by the creditors and should be legally drawn up as an *extension agreement* for such a period of time as may be agreed to by the creditors.

One of the most important points for all committees to keep in mind is "How large an indebtedness can a man carry with a reasonable expectation that he will be able to pay the loan?" For example, after the Federal land bank has made an appraisal and approved a loan, it may be found to be considerably less than the indebtedness and less than creditors will accept. It must be recognized that there will be debtors a county farm-debt adjustment committee cannot save unless the creditors are willing to scale down the indebtedness or enter into an extension agreement. It is doing a heavily involved debtor no kindness to obligate him to a debt that he cannot meet under normal price conditions. While it is unfortunate, there will be an occasional debtor who will be relieved of an unbearable burden if he accepts foreclosure or bankruptcy. It should, however, be emphasized that no fair-minded creditor or his agent should wish to see any honorable debtor who is an efficient farmer deprived of

the title to his farm. *For all such debtors, a composition or extension agreement should be possible.*

Functions of the State Committees

The functions of the State committees, as we see them, are as follows:

- (a) To recommend to their respective governors a suitable personnel for the county committees to be appointed by the governor.
- (b) To be of assistance to county committees by providing information and guidance in order to promote uniform handling of debt cases, especially those of unusual type. Careful attention may well be given to securing the proper local publicity in order to avoid unreasonable expectations from the work of the farm debt adjustment committees.
- (c) To serve as contact agency between county committees and the Farm Credit Administration.

Functions of the County Committees

An attempt has been made to outline the functions which it is believed the county committees could perform:

- (a) To serve as a source of accurate information and counsel to distressed debtors and their creditors. To this end, carefully prepared information must be placed in the hands of local committees by the State committee. Frequently proper suggestions made to either debtor or creditor may lead to a friendly settlement without further effort from the committee.
- (b) In a few areas where it is necessary, to reestablish the confidence of farmers and work out equitable agreements so that good farmers will not hastily give up their farms and homes by deeding them to their creditors.
- (c) To help stop unnecessary foreclosure. It is recognized that there are some legitimate foreclosures to be permitted, such as the abandonment of property, the wilful waste of the premises and persistent paying of available income to the wrong creditor. Representatives of creditor interests may desire to have a responsible committee approve foreclosures which are justifiable, before entering court.
- (d) To assist debtors and creditors in the composition of their debts as a permanent disposal of the case. Careful direction must be given to establishing the proper priority of claims of different creditor interests. When this work is properly established, it will give the debtor hope of carrying a reasonable burden and of honorably meeting his creditors. Frequently local committees will be able to suggest methods of settlement which had not occurred to either the debtor or his creditors.
- (e) When the final composition of debts seems impossible, to provide for an extension agreement which will, in a sense, "freeze" the debts pending further settlement, provide for efficient operation of the farm,

assure the debtor of fair treatment in the final settlement of his creditors' claims and provide for a fair distribution of available income to pay creditors.

(f) When local mediation fails, to direct the debtors and creditors to the proper court facilities, when this seems desirable.

(g) To assist closed banks in effecting equitable settlements with farmers' accounts involved in the bank's affairs.

(h) To inform local courts of facts pertaining to distressed farm debtor cases when requested.

(i) To cooperate with local committees in the same or different States when questions involving absentee creditors are involved.

Looking at the long-time aspect of the committees' responsibility, it is hoped that ten years from now the committee will be recognized as a potent force in rebuilding the needed morale with regard to the financial responsibility of debtors on the one hand and the legal claims of creditors on the other hand.

Stated briefly, the final objective is the application of social justice in the adjustment of unbearable debt burdens.

MR. TURNER: I am on the Credit Committee of the Federal Farm Land Bank of Baltimore, Mr. Winn is the chairman and I am the vice-chairman. It is my duty to review all the cases; my committee passes on all the cases submitted to the Federal Land Bank of Baltimore. We take the application submitted to us, together with the appraisal reports and the other information we have received. We then consider the case based on the information we have and recommend to the Executive Committee a certain amount. That is reviewed by the Executive Committee and the applicant is notified of the result. That is briefly the procedure followed by the Federal Land Bank of Baltimore on these applications for loans.

MR. COCKEY: I hope you gentlemen will give us anything that will be at all helpful to these county committees, and also the State committee.

MR. TURNER: On account of the terrific volume of business coming into the bank, we have increased our force. We would be glad to consider all these applications very promptly, if we could. Where a loan has been approved outright, the notice of approval is transmitted promptly to the applicant. Where there are conditions, we state how much we will loan. The title is supposed to be good, and our loans are approved based on valuation shown by the appraisal. If because of excessive amount of debts, we cannot approve all, we notify the applicant we are allowing a certain amount provided certain conditions are met, and outline those conditions in the notice. Attached to that letter, we also send him a memorandum giving the names and addresses of the local committee, if there is one appointed in his county, and suggesting to him, if he needs the services of the Committee that he apply to them. Within one week

or ten days every applicant is notified of the conditionally approved loan, also given the notice giving the names and address of his local committee. In those counties where there are no local committees appointed, we suggest that they write to the governor asking for the appointment of a committee.

In Maryland, there are county committees in most counties.

That is what we are doing in Baltimore, trying to assist the applicants in their adjustment problems. In those cases where the local committees feel like having the assistance of our bank, we have Mr. Work here. He will go out and go over the matter with the local committee. He has already made some trips and he is on hand for that work.

MR. COCKEY: I hope that you county committeemen have gotten some real meat out of this meeting. If in any way the State committee can assist your county committee, do not hesitate to bring your problem to us and we will do all we can to help.

Meeting then adjourned.

The following report was submitted by Dr. T. B. Symons to the Directors and upon motion was duly approved.

MARYLAND AGRICULTURAL SOCIETY—MARYLAND FARM BUREAU FEDERATION

FINANCIAL STATEMENT FOR FISCAL YEAR 1932-1933

Appropriation for 1932-1933.....\$5,000.00

1932

Oct.—

Date	Payee	Classification	Expended
18	J. P. Brown.....	Community Exh. (Wicomico Co.).....	\$ 24.75
18	Marian G. Swanson.....	Community Exh. (Wicomico Co.).....	25.00
18	Md. Farm Bur. Fed.....	Office Rent (Oct.).....	53.33
29	Miles H. Fairbank.....	Travel (New Hampshire)	159.91
29	W. H. Holloway.....	Travel ((Washington Potato Com.).....	16.74
29	P. D. Brown.....	Community Exh. (Charles Co.).....	50.00
29	Bertha Moreland.....	Community Exh. (Pr. George's Co.).....	15.00
29	Bessie M. Spafford.....	Community Exh. (Caroline Co.).....	20.00

Nov.—

15	Louise L. Bromwell.....	Community Exh. (Dorchester Co.)	25.00
15	Md. Farm Bur. Fed.....	Office Rent (Nov.).....	53.33
25	H. M. Carroll.....	Community Exh. (Harford Co.).....	30.00
25	John H. Carter.....	Community Exh. (Gar Co. Potato Show) ..	74.00
25	W. H. Evans.....	Community Exh. (Caroline Co.).....	20.00

Dec.—

13	R. S. Brown.....	Community Exh. (Talbot Co.).....	50.00
13	Ernest W. Grub.....	Community Exh. (Queen Anne's Co.).....	50.00
13	J. B. Morsell.....	Community Exh. (Calvert Co.)	50.00
17	Miles H. Fairbank.....	Travel (Chicago, An. Meeting).....	94.17
17	W. H. Evans.....	Community Exh. (Caroline Co.).....	10.00
17	Md. Farm Bur. Fed.....	Office Rent (Dec.).....	53.33
23	R. P. Jennings.....	Community Exh. (Pr. George's Co.).....	23.00

Date	Payee	Classification	Expended
23	R. K. Remsburg.....	Community Exh. (Washington Co.)	10.85
30	John W. Magruder.....	Community Exh. (Howard Co.)	48.00
30	L. H. Martin.....	Community Exh. (Colored)	25.00
1933			
Jan.—			
10	Justine N. Clark.....	Community Exh. (Colored)	25.00
10	Chester B. Shank.....	Community Exh. (Washington Co.)	14.15
11	Md. Farm Bur. Fed.....	Office Rent (Jan.).....	53.33
21	F. L. Bentley.....	Travel (Baltimore Annual Meeting).....	21.80
21	K. G. Connolly.....	Travel (Baltimore Annual Meeting).....	5.80
21	S. H. DeVault.....	Travel (Baltimore Annual Meeting).....	19.58
21	F. A. Pearson.....	Travel (Baltimore Annual Meeting).....	143.55
21	Frank Farnsworth.....	Travel (Baltimore Annual Meeting).....	61.22
21	Samuel Fraser.....	Travel (Baltimore Annual Meeting).....	54.95
21	Meredith P. Reed.....	Travel (Baltimore Annual Meeting).....	77.38
21	O. W. Anderson.....	Community Exh. (Montgomery Co.).....	15.00
28	John A. Lomax.....	Travel (Baltimore Annual Meeting).....	15.00
28	Harold A. Remsburg.....	Community Exh. (Washington Co.).....	25.00
28	J. C. Walker.....	Travel (Baltimore Annual Meeting).....	81.80
29	H. R. Shoemaker.....	Community Exh. (Frederick Co.).....	50.00
Feb.—			
15	R. A. Jehle.....	Travel (Baltimore Annual Meeting).....	4.10
15	F. W. Oldenburg.....	Travel (Baltimore Annual Meeting).....	13.36
15	Marion L. Olivet.....	Travel (Baltimore Annual Meeting).....	10.60
15	Leo F. Rettger.....	Travel (Baltimore Annual Meeting).....	28.05
15	Md. Farm Bur. Fed.....	Office Rent (Feb.).....	53.33
18	H. M. Biden Co.....	Printing (Programs, Annual Meeting).....	69.50
18	Univ. of Md. Press.....	Printing (Programs, Corn Show).....	10.00
18	C. E. Bryan.....	Travel (Washington Export Conference)....	6.24
18	Geo. L. Schuester.....	Travel (Baltimore Annual Meeting).....	15.93
18	H. C. Whiteford.....	Travel (Baltimore Annual Meeting).....	14.10
18	The Raleigh.....	Travel (Washington Export Conference)....	12.67
18	Md. Crop Imp. Assn.....	Com. Exh. (An. Corn and Potato Show)....	305.30
Mar.—			
17	Express Agency.....	Office (Proof Annual Report).....	.36
17	United Reporting Ser.....	Printing (Reporting Annual Meeting).....	228.97
29	Day Printing Co.....	Printing (Grange Reports)	149.00
29	Advertisers Eng. Co.....	Printing (Cuts Annual Report).....	14.25
29	Elsie M. Hill.....	Community Exh. (Allegany Co.).....	25.00
29	Md. Farm Bur. Fed.....	Office Rent (March).....	53.33
April—			
7	Mrs. L. A. Sutton.....	Community Exh. (Kent County).....	50.00
7	Ry. Express Agency.....	Office (Proof Annual Report).....	2.12
19	Advertisers Eng. Co.....	Printing (Cuts, Annual Report).....	8.80
19	Md. Farm Bur. Fed.....	Office Rent (April).....	53.33
28	Ry. Express Agency.....	Printing (Proof, Annual Report).....	1.45
May—			
9	W. T. Cowan, Inc.....	Office (Hauling, Annual Reports).....	1.00
9	Md. Farm Bur. Fed.....	Office Rent (May)	53.33
26	Ry. Express Agency.....	Office (Annual Reports)	1.19
26	Day Printing Co.....	Printing (Annual Reports).....	794.00
31	W. T. Cowan, Inc.....	Office (Hauling, Annual Reports).....	1.50
31	Miles H. Fairbank.....	Travel (Columbus, Ohio).....	95.72

Date	Payee	Classification	Expended
June—			
8	Rev. H. J. Parker.....	Community Exh. (Great Mills).....	6.00
8	Md. Farm Bur. Fed.....	Office Rent (June).....	53.33
July—			
11	M. T. Johnson.....	Postage	50.00
11	M. H. Fairbank.....	Other Exp. (Labor, Reports, Annual and Committee Meetings)	50.00
11	T. B. Symons.....	Other Exp. (Labor, Reports, Annual and Committee Meetings)	65.00
11	K. G. Connolly.....	Other Exp. (Labor, An. Reports, Accts.)....	55.00
11	A. H. Snyder.....	Other Exp. (Labor, An. Reports, Prog.)....	25.00
11	Thyra Sanders.....	Other Exp. (Labor, An. Reports).....	15.00
11	Md. Farm Bur. Fed.....	Office Rent (July)	53.33
Aug.—			
29	Md. Farm Bur. Fed.....	Office Rent (August).....	53.33
Sept.—			
16	M. T. Johnson.....	Postage	100.00
16	Md. Farm Bur. Fed.....	Community Exh. (5 counties).....	125.00
16	Md. Farm Bur. Fed.....	Office Rent (September).....	53.37
27	F. W. Oldeburg.....	Travel (Chicago—Part)	15.00
27	J. H. Carter.....	Community Exh. (Garrett Co.)	18.00
27	Dorothy Emerson.....	Community Exh. (Club Girls)	186.43
27	Md. Farm Bur. Fed.....	Community Exh. (Timonium)	30.00
30	Dorothy Emerson	Travel (Timonium—Part)	32.33
30	Kee Lox Mfg. Co.....	Office (Supplies).....	39.00
30	Univ. Md. Store.....	Office (Supplies).....	3.38
Total Expenditures			\$4,750.00
*Reserve			250.00
TOTAL APPROPRIATION			\$5,000.00

*Returned to State Treasury, at request of Governor.
This account is audited by the State Auditor.

T. B. SYMONS,
Treasurer.

THURSDAY AFTERNOON SESSION

JANUARY 11

Mr. Cockey presiding.

Mr. Cockey called Mr. J. W. Jones, Chairman of Committee on Credentials to the platform.

MR. JONES: Mr. Chairman, Ladies and Gentlemen, the Credentials Committee has gone over the matters submitted to them very carefully, and agreed to make recommendations as follows:

REPORT OF CREDENTIALS COMMITTEE

Maryland Farm Bureau Federation

County	Members on Roll	Total Paid	Number of Directors	Number of Delegates
Kent	151	136	1	3
Talbot	164	136	1	3
Caroline	151	57	1	1
Baltimore	313	294	1	6
Frederick	382	313	1	6
Worcester	23	23	0	0
Carroll	110	110	1	2
Harford	216	216	1	4
Anne Arundel	10	7	0	0
Queen Anne	252	182	1	4
Montgomery	138	124	1	2
Cecil	102	102	1	2
Charles	55	34	1	1
Wicomico	91	91	1	2
Howard	126	103	1	2
Washington	62	62	1	1
Dorchester	78	35	0	1

AFFILIATED ORGANIZATIONS

Maryland State Horticultural Society.....	1	1
Maryland Crop Improvement Association.....	1	1
Maryland State Beekeepers' Association.....	1	1
Maryland State Vegetable Growers' Association..	1	1
The Agricultural Corporation of Maryland.....	1	3
Maryland Tobacco Growers' Association.....	1	3
Maryland Stockmen's Association.....	1	1
Maryland State Dairymen's Association.....	1	3

There are three counties with no director. I, therefore, move that Anne Arundel County, Worcester County and Dorchester County each be allowed one voting delegate for this particular meeting.

Motion seconded and carried.

Mr Jones moved the report of the Credentials Committee be accepted, which motion was seconded and carried.

MR. COCKEY: The next speaker will talk on subjects of particular interest to the farmers. We are particularly fortunate in having a gentleman here today who I understand is an author as well as an orator. I take great pleasure in presenting to you Dr. Roy F. Bergengren, Executive Secretary of the Credit Union National Extension Bureau of Boston.

COOPERATIVE CREDIT FOR FARMERS

By Roy F. Bergengren

Credit Union National Extension Bureau, Boston, Mass.

As we face up to our many problems let us never lose sight of this fact—we are a young nation, not yet approaching the years of early maturity, strong, hardly able to meet and to solve hard problems. If we appreciate our youth and our strength we shall have the more certainty of purpose that temporary difficulties, however great their immediate intensity, shall not down us. The years ahead of us in national experience will be infinitely better and finer than any period in the previous history of the world, whatever the golden age you may select for comparison. I do not mean that the new era will come without struggle or that bad economic and political habits can be easily eliminated from our national life. Money hunger has been a national habit for a long, long time. We will not be easily rid of it but there are signs unmistakable of reformation.

There will be, for example, in all probability another world war. When it comes (and the date will be determined pretty much by the increasing capacity of the various nations of Europe to enjoy the luxury) there will be a great demand for manufactured products and for food supplies from America. Will farmers persist in their earlier folly and mortgage their free acres in order to buy additional acres at greatly inflated values? If so he will have only himself to blame when the inevitable deflation of values comes after the war is over; there he will sit, among his souvenirs—his better and bigger mortgages. It will be the part of wisdom (a fantastic suggestion which I do not ask anyone to accept seriously) for farmers as a whole in the United States to appoint a very intelligent Commission, composed of men with exceptionally long memories who, at the outbreak of the next war, will have supervision of the temporary inflation of the agricultural industry.

There is an excellent book which I earnestly commend to all of you who are not already familiar with it; it is entitled "The Internal Debts of the United States." It was published about a year ago by the Mac-Millan Company; the first time I saw it, glancing hastily at the title I read it "The Eternal Debts of the United States" and, after reading it, it seemed to me that the title should have been "The Infernal Debts of the United States." It is a compilation of studies by some eminent economists and has to do with the state of the country as regards the debts we owe; debts owed by the Federal government, by the State and local governments, by railroads, by farmers, by industry, by public utilities, by individuals. It is a most enlightening study and it would be well for farmers to read particularly chapter Two—"Farm Mortgage Debts," the various chapters having to do with government debts in infinite variety (for after all the government consists of you and of me and of all the rest of us and in the long run the public debts are ours to pay or to default) and Chap-

ter Eleven which is concerned with "Short-Term Personal and Household Debts." You will reach, after perusing this book, the very simple conclusion that we all owe too much money; the United States, the States, the cities, the towns, the railroads, the farmers, the public utilities, business—you and I, taking us as a whole and by the large in our various manifestations—owe too much. Either most of this debt is never going to be paid or it will be paid eventually with cheap money.

And by the same miracle a few other things should happen; we should make governments honest and efficient and prevent them from immediately rushing us into debt again; while doing that this same super-human dictator would regulate world production to world consumption, including the production of things from the soil; he would say to farmers—"raise what you can sell" and, in order to do that effectively, work intelligently with your fellow farmer. He would readjust hours of labor and the number of work days per week; I am not sure but what he would cheerfully recognize that the production of labor saving machinery must be controlled until we strike a happy balance between production and consumption. In this whole process he would recognize the cooperative principle which substitutes working together for undermining and destroying each other. For fifty years he would require that the nations of the world stop preparations for suicide and that they live instead at peace one with the other, working together to promote greater average happiness. He would make the city man and the country man understand their identity of interest. He would prove the Englishman and Frenchman and German and American that beyond national differences of temperament are common urges to find happiness which cannot be satisfied with poison gas and individual aspirations which cannot be realized in lousy trenches. It would not be very difficult for him to bring to pass a better world than we have yet experienced during the centuries of recorded history. The objectives we would make under his leadership would be objectives we all want to make and we could make them without the aid of the super-man if we could slough off the bad thinking which turns us repeatedly against our own best interests.

I was surprised to find the farm debt situation much better than I had expected it would be. At the time the book was written (about a year ago) 60 per cent of all of the farms in the United States were without mortgage encumbrance at all. At the time our farms were mortgaged for eight and a half billion dollars, being 25 per cent of the value of all farms and an average of 40 per cent of the value of the farms mortgaged. About 60 percent of this farm mortgage debt is localized in Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North and South Dakota, Nebraska and Kansas. Undoubtedly many farms are mortgaged beyond their present value. Between 1910 and 1920 farm debts doubled. In 1933 the farm mortgage debt was two and a half times what it was in 1910, with land values 20 per cent below 1913 levels and gross farm income about 50 per cent off. Land mortgage farm interest that year totalled

five hundred million dollars annually and farm taxes six hundred and twenty-nine million dollars, the two items equalling one-third of all farm income against 19 per cent ten years previously. In 1928 27 per cent of all farm transfers were mortgage foreclosures and in 1932 the percentage had increased to 37 per cent.

I wish that I might go further into this interesting study. It certainly proves that a large percentage of farmers owe too much money, that production and consumption are way out of balance and that farmers are being over taxed.

The credit union is a cooperative society, organized within and limited in all of its operations to a given group of people. It receives its charter from the State Banking Department and operates under the supervision and subject to the annual examination of that department. It is self managed, generating from within the group its own locomotion. In elections each member has one vote and only one vote and there is no proxy voting, the credit union being an organization of human beings, not an organization of shares. The credit union supplies its members with what we believe to be the best, the most scientific device for enabling them to accumulate money in a common pool. From this pool the credit union makes loans exclusively to its own members for provident and productive purposes. In the process the credit union teaches its members how most efficiently to manage their own money. Loans are made at normal interest rates and all net earnings return to the members as dividends on their savings in the common pool and as surplus. Savings in the credit union are like savings in any bank and may be withdrawn at the will of the member.

Next on the program is a discussion of Farm Credits, led by Mr. R. S. Brown, County Agent for Talbot County.

MR. BROWN: Mr. Chairman, distinguished visitors and friends, I am somewhat at a loss. I have no speech written out. I do not exactly know what to say. I imagine that after this splendid presentation that we have just had some of you probably have some questions that you would like to ask Mr. Bergengren, or Dr. Bergengren, as he accepted the title. Before that, possibly we could devote a few minutes to some of the phases of farm credits, as we are trying to become familiar with them under the new Farm Credit administration. I asked the representative of the Federal Land Bank to be here to answer all the questions, and Mr. Fairbank has told me a number of times that we had to get out of this hall at 4:30. I know very well all of you people get hungry, and you will want to make this discussion brief so that we can hear from our president, Mr. O'Neal, and give him plenty of time.

I am just wondering if any of you at this time have any questions that you would like to ask Mr. Bergengren about this Credit Union. I think he has covered it very thoroughly. It is like a new set-up of farm credit. You don't get it the first time. If there are any questions I will be glad to ask him to answer them, and in that way he would lead this discussion.

Mr. Bergengren, you must have done a good job. Everybody understands it thoroughly.

I think it might be well to mention just a few of the things in which we are particularly interested in connection with farm credits. First, the thing we have to realize is that farm credits are necessary just as in other business. You have to have money to operate. Secondly, we must realize that money has not been available and in some cases too much has been available just lately. Under the new farm credit plan, under which the various agencies are being co-ordinated, probably there are two branches with which most of the farmers will want to deal. I am thinking of the Federal Land Bank, of course, the real estate loans, and the Production Credit Association. The Federal Land Bank is something that has become quite an institution. We have had it for some time, and I think probably everyone is familiar with that. Yet there is just one more feature added to it that makes some additional credit available. That is the commission loan program, the maximum amount of which is \$5,000. I won't go into the details because it would probably take too long. I will just take one second to tell you just what that money is available for.

Loans to farmers may be made for the following purpose,—I hope no one here needs that money—to re-finance any indebtedness already on the property or unsecured that is to provide working capital for farming operations and to enable farmers to re-acquire property which they may have lost since July, 1930.

Probably more of us are directly interested in the Production Credit Associations which are just in the process of organization, just completed in some districts of Maryland. They will make money available for farm operations, secured, of course, by chattel mortgages on the livestock, equipment, and also crop liens. I think we should keep in mind in attempting to get a loan that this money cannot just be loaned out promiscuously, that it is public funds and that those loaning the money have to be reasonably assured that it will be paid back.

The Debt Reconciliation Committee is also another factor. Those of you in the meeting this morning heard of that. Certainly those of us actively working with it and in it realize that it does fill a very important place. There is a tie-up between that and the Federal Land Bank; and in many cases the Federal Land Bank agrees to grant a loan up to a certain amount, provided the farmer can scale down his debts to that amount, and not have a total indebtedness exceeding whatever amount they may determine in such cases; then, it is up to that individual to go to his creditors and prevail upon them to accept part payment, or if he cannot do that, the next thing for him to do is to get in touch with his County Debt Conciliation Committee and probably they can help him out.

Mr. COCKEY: Now, my friends, the gentleman that I am going to introduce to you next, I might with the usual phraseology say needs no introduction. But that would not be exactly true this time, as we have a lot of new members here this afternoon who have not yet heard our good president, Mr. O'Neal.

THE NEW DEAL FOR AGRICULTURE

By EDWARD A. O'NEAL

President American Farm Bureau Federation

We are living in a new era. The old order has passed; there are few if any who regret its passing. It was an order of injustice, of oppression, of inequality in which the strong plundered the weak. It destroyed itself because it was founded upon the false basis of selfishness and greed; and selfishness finally destroyed it.

We have entered upon a new era in American life—an era of national planning for agriculture, for industry, for labor, for finance, and for the nation generally.

The new planning represents: Not a dictatorship forced upon the people, but a partnership of government with agriculture, industry, labor and finance. Not ruthless competition under the law of the jungle, which we have had in the past, but organized cooperation in the common welfare. Not special privilege for the few, but social and economic justice. Not prosperity for the favored few, while the masses eke out a precarious existence, but a more equitable distribution of our national income.

The Farm Bureau has been in the forefront of the long fight to restore agriculture to its rightful place in the life of this nation. For fifteen years we have been educating public opinion throughout the nation to the necessity for building a strong agriculture as the basis of national welfare and prosperity. We are now reaping the fruit of these efforts.

Achievements

It is truly remarkable the extent to which we have obtained action on our program. These are the things we asked of Congress and the President:

1. We asked for equality for agriculture that would restore our buying power and give us an American price for that part of the crop consumed at home.

We got the Agricultural Adjustment Act which recognizes agriculture as our basic industry, not only laying down the broad principle of equality for agriculture, but providing a concrete formula for making this principle effective.

2. We asked for control of crop surpluses.

The Agricultural Adjustment Act at last gives the farmers the necessary social machinery by which to become masters of their own house, adjust their production to demand through voluntary cooperation.

3. We asked for adequate tariff protection for Agriculture and elimination of prohibitive tariff on industrial products wherever they deprive our farmers of markets for surplus farm products.

Discretionary power has been given to the President, through the Industrial Recovery Act, to increase tariffs even to the point of embargoes,

if necessary, in order to prevent the recovery program from being injured or destroyed by foreign imports. The big job is still ahead of us on our tariff program. We must not allow prohibitive industrial tariffs to deprive our farmers of markets abroad for our surplus farm products.

4. We asked for an adequate program for farm mortgage relief, at low interest rates.

We got a \$2,200,000,000 measure for refinancing farm debts at $4\frac{1}{2}$ per cent interest instead of $5\frac{1}{2}$ and 6 per cent.

5. We asked for complete government guarantee of bonds of the land banks in order to keep interest rates down.

We got government guarantee of the interest, but now the President has announced his intention of asking Congress for government guarantee of the principal. It was a colossal undertaking to refinance the enormous farm debt burden. Progress was slow at first, but now is moving at a very rapid rate. Land bank loans are being made at the rate of five million dollars per day, which is about $1\frac{1}{2}$ billion dollars per year.

6. We asked for the coordination and reorganization of our rural credit facilities and a truly sympathetic administration.

The Farm Credit Act of 1933, coupled with the executive order of the President, has consolidated and coordinated all rural credit facilities under the jurisdiction of the Federal government, with a large expansion of these facilities on a semi-cooperative basis. The cooperative principle must be further extended so that eventually farmers will own, operate and control their own system under proper governmental regulation to protect public interest.

7. We asked for a fair and equitable tax system based on ability to pay.

Nowhere has the American Farm Bureau Federation been more successful in its program than it has in its tax recommendations. Our tax program has been very largely incorporated into the national tax structure. Attempts of wealthy interests to shift a larger share of the tax burden from the wealthy to the poor has been defeated again and again. For years we have insisted that the loopholes in our incomes and inheritance tax laws be plugged up so the wealthy cannot evade their fair share of the tax burden. Considerable progress along this line was made at the special session and much more progress is now in prospect. We should issue no more tax exempt securities and we should make those already issued subject to taxation as to income at least.

8. We asked for economy in government along sound, constructive lines.

The expenditures for the maintenance of the regular government departments have been reduced approximately one million dollars annually. Special costs due to the emergency measures of the New Deal quite properly have been segregated from regular government expenditures. We need not be alarmed because these special expenditures will amount to ten billion dollars this year, and bring our total public debt to \$31,834,000,000 by 1936. What is national recovery worth to us? We spent 32 billion dollars during the World War and the world spent 208 billion dollars in the war.

Isn't it more important to spend ten billion dollars for national recovery—to feed the hungry, clothe the destitute, provide employment for the unemployed, and restore the nation to prosperity than to spend 32 billion dollars to destroy human lives and property? The depression already had cost American agriculture more in the loss of annual income than the entire expenditures for national recovery.

While we favor economy in government, such economy must not be blind and foolish. Our changed economic conditions demand more federal aid for education and for our new program of national planning. Economies can and should be obtained by coordination of all governmental activities.

9. We asked for an honest dollar, for control of our monetary system for the nation in the hands of the people.

The program of the American Farm Bureau Federation for an honest dollar has been adopted as the national policy. Our plan is being carried out.

10. We asked for protection of the public from financial racketeering and manipulation.

Notable progress has been made. The new Bank Regulation Law divorces banks from affiliated corporations engaged in stock market speculation, and provides a nation-wide system of insurance for bank deposits. In addition, legislation has been enacted to protect investors against racketeering in investments.

11. We asked that Muscle Shoals be devoted to public interest as a yardstick for costs of power and fertilizer.

Not only is this being done, but a comprehensive program for the development of the entire Tennessee River Valley is being carried out to foster its agriculture, promote its industries, and improve its rural and urban life—in short, a model of regional planning such as we have never had before.

12. We asked for the regulation of public utilities and of corporations for the public welfare. The Federal Power Commission has been reorganized. The N.R.A. is bringing corporations under regulation in the public interest.

13. We asked for a new national land policy, replacing expansion with conservation. A new reclamation policy has been promulgated by President Roosevelt which will mean the retirement from cultivation of from 8 to 10 acres of submarginal land for every acre of land brought into cultivation by new reclamation projects. From 40 to 50 million acres of crop land are in the process of retirement from cultivation for producing our basic surplus crops, under the acreage retirement program sponsored by the A.A.A. A nation-wide conservation program to check soil erosion is under way.

14. We asked for a planned economic program for agriculture. Such a program has been started through the cooperation of the administration with the leaders of organized agriculture.

15. We asked for closer cooperation of farm organizations. During the past year, the constructive farm organizations have worked side by side for a common program. More has been accomplished for agriculture during this period than during any other single period in our history.

16. We asked for sympathetic and understanding administration of all measures affecting agriculture. We farm leaders have been frequently consulted in regard to the administration of the new deal program for agriculture. Our counsel has been welcomed, and our recommendations are very largely being carried out.

17. We asked that the administration recognize organized agriculture and the Farm Bureau. We farm leaders were called in to help write the program and to help administer it. There is a greater recognition of the need for building and strengthening farm organizations such as the Farm Bureau, so that the farmers can cooperate with the government in national planning for agriculture.

18. We asked for a fair transportation policy. Congress repealed retroactively the old recapture clause of the Transportation Act; it wrote a new rule of rate making which eliminates the guarantee of a fixed return to the railroads and prescribed a new rule based on reasonableness to the public and to the railroads; it set up a rail coordinator to reduce waste and unnecessary duplication in rail service and to improve the service to the public. We sought a general reduction in the general freight level on farm commodities last January, but the reactionary element on Interstate Commerce Commission rejected our plea, but a progressive minority favored our request.

19. We asked for more help from the Federal government for highway building. A special fund of \$400,000,000 was set aside in the public works program for highway building, with special provision for farm-to-market roads.

20. We asked for the development of water transportation, storage reservoirs, and flood control. Large sums have been set aside in the public works program for this purpose.

21. We asked for the protection of our Land Grant institution activities, extension service, and vocational education and adequate funds for their maintenance. A proposed 25 per cent cut in their appropriations was averted at least temporarily. The present session of Congress should veto this proposed cut. These fundamental institutions are needed now more than ever before to help carry forward the new program of national planning for agriculture.

Monetary Reform

Monetary reform is the most fundamental part of the program for national recovery. Without an increase in the commodity price level there can be no lasting recovery. Without monetary reform, we cannot achieve a sufficient increase in the commodity price level quickly enough to save our whole economic, financial and industrial structure from collapse and ruin.

Sir Josiah Stamp, one of the world's greatest economists, has repeatedly declared that "the problem of the price level is the most important single problem of our age." He said: "What about trade depression in the basic industries, unemployment, labour unrest, class hatred, high taxation, and the rest? My answer is that the problem of the price level is fundamental to a solution of them all."

We now have a managed currency. Do not be misled by the propaganda being circulated widely against this program for an honest dollar. Unfortunately there are those in this country who are willing to destroy the gains made in fighting the depression, if necessary, in order to regain their control of our finances, which they once held. Who are those who are spreading this propaganda against the honest dollar and are trying to undermine the confidence of the people in the program? They are either the same ones who nearly ruined the country when they had control or those who are steeped in the same philosophy.

The policy that we were pursuing then was to put the value of gold paramount to the value of commodities and property, to maintain a high value for our gold dollar no matter how low it drove the prices of commodities and property. This foolish policy of deflating commodity and property values was continued until the whole nation was brought to the verge of ruin last February. Commodity prices were driven down to ruinous levels; property values decreased so we could not sell property; equities and the savings of a lifetime of toil were wiped out; home owners were losing their homes; business was stagnant and our factories were idle; thirteen million unemployed in cities and towns sought vainly for work; millions were subsisting on public or private charity, while huge surpluses of goods overflowed our warehouses.

While the United States was pursuing this ruinous policy, practically every other country in the world abandoned the gold standard and lowered the value of its currency in line with economic conditions. They revalued and managed their currencies so as to stimulate their trade. They made their currency the servant of their trade instead of its master. We were doing just the opposite in the United States. Foreign nations gained a tremendous trade advantage. They were capturing our foreign markets from us and even invading our own markets to an alarming extent. The depreciation of about 30 per cent in the value of the British pound in exchange for the American gold dollar had the same effect as adding a 30 per cent ad valorem tariff against our goods shipped to England, because buyers in England must pay for their goods with the pound sterling—worth 30 per cent less than our gold dollar.

On the other hand, British merchants without reducing the price of their goods could get about 42 per cent more for their goods sold in the United States, because they were paid for with American gold dollars, which were worth about 42 per cent more than the pound sterling. This 42 per cent margin gave them ample opportunity for price cutting to get into our markets.

When England abandoned the gold standard, all the other countries in the far-flung British Empire followed with like action; also, all the Latin-American countries which had not previously abandoned the gold standard. Their currencies immediately depreciated in exchange for our gold dollar, and they, too, gained a decided trade advantage whereby they could export goods into the United States in competition with our own goods, despite our high tariffs. And their depreciated currencies also acted as an effective barrier against our exports to those countries. Over 50 per cent of the world's trade was involved in these countries with depreciated currencies linked to the pound sterling. Our export trade declined from \$5,241,000,000 in 1929 to \$1,450,000,000 in 1932.

If anyone is beguiled into thinking that the old order is preferable to the new, let him stop and reflect what the old order brought forth. Surely we are not too far away from the horrible days of 1929, 1930, 1931 and 1932, to remember the misery and anguish and ruin which the old order brought upon us. What good did the gold standard do us, then? Which of these advisers who are now crying for the stabilization of the dollar asked for its stabilization then, when the value of the dollar was going up and commodity prices were going down? Their advice then was that the dollar must be kept sound, and that meant making it worth as much as possible, no matter how low commodities and property values sank. Does anyone want to return to such conditions? That is what would happen if we attempt to return to the gold standard now at the pre-war value of the dollar.

At the 1926 level of values, we had about 4 billion dollars worth of gold and about 280 billion dollars worth of property in the United States. We are now engaged in a program to reduce our gold dollar to a more equitable level and to restore the level of commodities and property values to the 280 billion dollar level. Why all this fuss about devaluing the 4 billion dollars' worth of gold? Can we allow our whole economic structure to be ruined and civilization wrecked in order to maintain the value of gold? Which is worth more to us as a nation and as individual citizens—the 4 billions of gold or the 280 billions of property? Is the welfare of 120 millions of people to be supreme or are they to be sacrificed upon the altar of greed for the benefit of the few whose profits depend upon a high value for the gold dollar?

What is a sound dollar? Is it a sound dollar when it becomes so valuable that it cannot function as a medium of exchange for commodities and services? Is it a sound dollar when it becomes so dear that commodity prices are driven to ruinously low levels, destroying purchasing power of agriculture, destroying the market for the good of industry, throwing laborers out of employment, destroying the equities in property, ruining banks and investors, and driving the whole nation to the brink of ruin? That's the kind of dollar we had in 1932.

Our dollar has fluctuated in purchasing power from \$2.08 in 1894 to 64 cents in 1930 and \$1.59 in May, 1933. In 1929 the wheat farmer could

obtain a dollar with less than one bushel of wheat, but in February, 1932, it required an average of about three bushels of wheat to obtain a dollar, and in some sections of the country it took as many as seven bushels of wheat to get a dollar. A farmer who borrowed \$100 in 1929 borrowed the equivalent of 80 bushels of wheat, but in 1932, in order to pay that debt, he would have to pay back 300 to 700 bushels of wheat. A cotton farmer who borrowed \$100 in 1929 borrowed the equivalent of one and one-sixth bales of cotton, but to pay back that debt in 1932 the cotton farmer would have to pay back four bales. Is there any soundness in such a medium of exchange?

What kind of a dollar have we got now? We are driving ahead for a managed currency in which the gold dollar no longer shall be the master of our economic destinies, but shall be the servant of industry, trade, and agriculture, a dollar which serves as an adequate medium of exchange for goods and services and which will provide a scientific yardstick with which to measure the exchange value of all commodities and services. Instead of being based on the scarcity or abundance of only one commodity, gold, it will be based on the average exchange relationships of all commodities, including gold. Why should we use as a yardstick for the exchange value of all commodities and services a single commodity, gold, which enters but little into actual commerce? Why should the wage of every laborer, the price of every bushel of wheat or every article of clothing, the value of every piece of property, including securities, be based on the relative scarcity or abundance of gold? It is a hangover from primitive times. Too long have we bowed down to the golden calf. Too long have we followed the outworn shibboleths of the international bankers whose profit or loss depends on whether they can make our gold dollar dear or cheap in international exchange.

The program of the American Farm Bureau Federation seeks an honest dollar. That means, first, a dollar that will be restored to a normal value, so that debts can be repaid and so that commodities and services can be exchanged on a normal basis; it means, secondly, the establishment of a scientific measure of money—a dollar based on the index value of all commodities.

The program of the American Farm Bureau Federation for an honest dollar has been adopted as the national policy. President Roosevelt, in his message to the World Economic Conference last July, said:

"Let me be frank in saying that the United States of America seeks the kind of a dollar which a generation hence will have the same purchasing and debt-paying power as the dollar value we hope to attain in the near future."

Later in his fireside radio talk to the American people, the President promised that farm prices would be restored, in one way or another. He announced that the dollar would be re-valued only after a restoration of the price level. He declared:

"It is not sufficient to escape from present evils, but it is our duty to consider together how to avoid a recurrence in the future.

The first task is to restore prices to a level at which industry and, above all, agriculture can function profitably and efficiently."

To attain this goal, he announced a new gold-buying policy to depreciate our dollar and increase commodity prices to a normal level. He declared:

"This is a policy and not an expedient. It is not to be used merely to offset a temporary fall in prices. We are thus continuing to move towards a managed currency.

My aim in taking this step is to establish and maintain continuous control.

Government credit will be maintained and a sound currency will accompany a rise in the American commodity price level."

We were the first great national organization to take up the fight for an honest dollar. We advocated it at a time when it was unpopular and little known except to a few.

The first essential is to restore the commodity price level to normal by devaluing our dollar. The abandonment of the gold standard and the gold embargo prepared the way. The President's gold-buying policy is a step in that direction. It has been handicapped by the fact that we do not have a completely free gold market here, with sufficient funds available to purchase all gold offered at the prices quoted by the treasury. The buying program has been too slow; a faster and greater increase in the price of gold would have driven the price level higher, and stimulated more rapid recovery. There is also a lag between the rise in the price of gold and the response in the commodity price level.

We need to carry on the program until we get the desired price level. Eminent monetary authorities assure us that, when a country suspends gold payment and permits the price of gold to vary, it can raise its internal price level and establish any price level it desires. It would be a terrible tragedy to stop this devaluation of our dollar before a normal level is reached and commodity prices are re-established at a normal level.

When the price level is restored, then the second step in the monetary program should be taken; namely, the stabilization of the value at a normal level. It is nothing short of a national disgrace that we allow these periodic booms and depressions to occur.

Agricultural Adjustment Act—Its Principles and Its Philosophy

The Agricultural Adjustment Act is the Magna Charta of American agriculture—its charter of freedom from the domination of predatory business interests, its guarantee of economic equality with other groups, its promise of a new day for American agriculture. Let us remember that the courts have already pronounced it constitutional.

The Act lays down the broad principle of equality for agriculture with other groups and provides a concrete formula for making this principle effective. This formula is called price parity. Its goal is to reestablish

farm prices at a normal level in respect to the prices of articles that farmers buy. This is the principle for which we have been fighting for these many years.

The fundamental philosophy of the bill is not to force a program upon agriculture, but to consult farmers through their own organizations and assist them in writing their own program. When we went to the President for his help, he laid down just two fundamentals—first, that the farmers get together, and second, that they be masters of their own house by controlling their production. After the Act was passed we farm leaders were consulted as to its administration. Farmers, not the distributors, are making the policies. The textile manufacturers are not making the program for cotton; the packers are not making the program for hogs; the flour millers are not making the program for wheat. It is the farmers through their organizations and their leaders who are making these programs, in co-operation with the Secretary of Agriculture.

At last farmers have the machinery to plan their production control, market requirements, just as industry has. Without production control, our surpluses force prices down to the world level and the American farmer is forced into competition with foreign peasants.

Trade Barriers

Following the World War, an intense spirit of nationalism flared up throughout the world. Unfavorable economic conditions intensified the nationalistic urge to build up home industries by shutting out competitive imports.

As a result of this world-wide nationalistic movement, tariffs and other trade barriers soared to dizzy heights. Even free-trade Britain abandoned her traditional policy and adopted a protective policy. Few people realize the amazing extent to which these trade restrictions have gone.

For example, in February, 1933, Germany raised the import duty on lard from \$1.08 to \$5.40 per hundredweight, and raised it again in May to \$9.40 per hundredweight, or \$2.40 more than the price of lard at Chicago. How could we continue to ship lard into Germany under such conditions? Germany has doubled her hog production since 1921.

In the case of wheat the tariffs in Germany, Italy and France are several times as high as during the pre-war period. The German duty of \$1.62 per bushel is over four times the pre-war rate; the Italian duty of \$1.07 is about three times the pre-war rate; the French minimum duty applicable to United States is more than double the pre-war rate. Such tariff rates make our rates look small by comparison.

But there are other trade barriers that are even more effective in shutting out our exports of farm products. For example, many countries have imposed drastic milling requirements which require that a high percentage of domestic wheat be used in flour and other milling mixtures. Last March, France raised her requirement to make it mandatory on millers to use 100 per cent of native wheat for milling mixtures for domestic con-

sumption. Italy last April raised the milling mixture in Italy to 95 per cent of native wheat. Germany maintained a requirement of 97 per cent of native wheat for domestic consumption. Last February, Netherlands authorized an increase in her milling requirement from 25 to 50 per cent of native wheat.

A More Equitable Balance Needed

We need a more equitable balance between rural and urban population. The industrialization of our country during the past fifteen years has nearly ruined it, not only from an economic standpoint but from a social standpoint. The freedom and initiative of the rural population living on the land has been the bulwark of our democracy. It has supplied much of the leadership in the cities. It has been the stronghold of religion and patriotism and those social virtues which are essential to orderly civilization. The country has raised no Al Capones; gangland is the product of the city. There is something about country life which helps to build strong, sturdy character.

It is therefore not a sound policy to reduce agriculture entirely to a domestic basis—it involves too great a constriction of our agricultural output to sustain the volume of agricultural population which we need in this country to maintain a sound balance between agriculture and industry. Consequently, we must find new outlets abroad for our farm surpluses. Extension of credit is all right as a temporary expedient, but it is effective only so long as the credit lasts.

Barter Holds Possibilities

It looks to me like the only practicable way to handle this question effectively is through barter, at the present time. Some helpful beginnings have been made in the reciprocal trade negotiations such as the swapping of an increased quota of French wine for the American market for an increased quota of American apples for the French market, and the pending proposal to swap a quota for Scotch whiskey in the United States for a quota for American hog products in the United Kingdom. Perhaps we can trade some American apples or American eggs for Chilean nitrates.

Meanwhile, American agriculture must be assured the American market to the full extent of her ability to supply it. It would be folly to curtail our own production and permit foreign-grown farm products to come into our markets and replace the supply we have eliminated. There must be no sacrifice of American agriculture in such tariff bartering. The domestic market must be preserved for American farmers to the extent of their ability to supply it. But wherever farm surpluses can be exchanged for articles farmers buy, on a fair and reasonable basis, such tariff should be encouraged. The administration has promised adequate protection for our farmers to protect our home markets.

Agriculture has borne the short end of the stick in our national tariff policies long enough. Not only must agriculture be protected in the home

market equally with industry, but our exorbitant industrial tariffs must be reduced in such a way as to expand the markets abroad for our agricultural surpluses. The policy of building up industry at the expense of agriculture must be abandoned and a new policy carried out which will restore agriculture to equality with industry and establish a normal balance between agriculture and industry which will make it possible to maintain a prosperous nation on a permanent basis.

We must lift our vision from the material to the spiritual. Let us heed the warning which our President has given us:

"In the task we all face—the problems of so-called economics—we shall not succeed unless the people hold the spiritual values as high as we do the economic values."

This places a great obligation upon each and everyone of us. As Professor Berle has so well said:

"We may remake our laws; but it is not law for which we live. We may remake our commerce; but commerce serves only desire. We may even remake our institutions; but institutions are only a frame. All these are not industry—they are tools. And those tools, however well constructed, are nothing save in the hands of men and women of vision, of courage, of faith, proceeding from an inner spiritual strength and discipline."

In these troublous days, let us have a clear vision. The enemy is busy trying to confuse us. Let us get at the truth. We are not going back to the old practises, we are going ahead to the new day that has been promised us.

The real issue in this struggle is deeper and more fundamental than money, or surplus control, benefit payments, codes, wage agreements, and so on. The real issue is the readjustment of human relationships to give us a greater measure of economic and social justice.

National planning requires restraint and co-operation. It requires for its fullest fruition, a new attitude toward our neighbors and toward the world.

The Divine law is still the best economic law of life. Our economic problems cannot be solved until men recognize and apply the Divine Mandate: "Thou shalt love thy neighbor as thyself!"

MR. COCKEY: Mr. O'Neal, we certainly thank you for your address.

Mr. Fairbanks here made some announcements.

MR. COCKEY: We have Mr. Benjamin, president of the Pennsylvania Farm Bureau with us this afternoon. I want to give him a few minutes to say "How do" to you.

MR. BENJAMIN: It will be a very few minutes. I tried to get my good friend, Cockey, to let me just listen, and not to get me up here. I feel out of place to try to say anything to you after these two wonderful talks you have had this afternoon.

It has been a great pleasure to me to be here for this meeting. It has

been more than a pleasure, it has been a profitable pleasure; I feel no one here will go away without gaining profit, when you have heard two men who have their fingers on the pulse of the world today. I want to congratulate you on the work you are doing here in Maryland.

Meeting then adjourned.

FRIDAY, JANUARY 12—MORNING SESSION

PRESIDENT COCKEY *presiding*

MR. COCKEY: We will have the roll call of voting delegates.

Mr. Fairbank called the roll by counties. The following substitutions were made, after being duly moved, seconded and carried:

Carroll County, Mr. R. C. Gist for Mr. McKinney.

Montgomery County, Mr. Stanley Stabler for Mr. Hines.

MR. COCKEY: Now, this is a meeting of your House of Delegates. What is your pleasure? We should nominate first a temporary chairman.

It was moved, seconded and carried that Mr. P. C. Turner act as temporary chairman.

Mr. Turner called on Mr. H. Nuttle, chairman of the Resolutions Committee, for his report.

MR. NUTTLE: Before I take up the list of resolutions submitted by the Resolutions Committee, I want to read a resolution from Frederick County, which applies more nearly to that county than any other county, and which seems to be somewhat local in its application. While this resolution has not been accepted by the Resolutions Committee, I have acceded to the request that it be brought before you, so that it may be discussed upon the floor. This resolution was adopted at the annual meeting of the Frederick County Farm Bureau in December 1933, and is now brought here for your consideration.

FREDERICK COUNTY RESOLUTIONS

WHEREAS, the Frederick County Farm Bureau represents a large proportion of the taxpayers of Frederick County and as such is intensely interested in the conduct of local government in Frederick County, Maryland;

Now, Therefore Be It Resolved That the 1½-cent gasoline tax, as now allocated, be paid to the County Commissioners to be used as sole source of revenue for the support of the county road system and retirement of road bonds and that the control of roads and bridges be placed in the hands of a county road engineer, whose qualifications, appointment and removal shall be such as to make the office a non-political one, subject, however, to the policy control only of said County Commissioners;

And Be It Further Resolved That the staggering of the term of office of the County Commissioners be seriously considered;

And Be It Further Resolved That in the preparation of the county budget for the fiscal year 1934, the County Commissioners bend every effort toward contracting non-essential expenses and specifically that salaries be curtailed 10%, in view of the fact that living expenses are still 12% to 14% below the levels of 1927-1929 and farm income is yet 30% to 40% below said levels;

And Be It Further Resolved An effort be made to have these resolutions incorporated in the platforms of the two major parties.

MR. F. WILBUR SMITH: Mr. Chairman and voting members of the delegation, I feel that I will have to take issue with the chairman of the Resolutions Committee that this is a local matter. This is a matter that certainly is State-wide, and I am representing Frederick County. I guess that most of you men know that when our tax program was worked out last year in the State meeting it was suggested that this money be allocated to the county section of the State Roads Commission. That fell through. Our taxes have been reduced, or switched, not absolutely reduced; we pay 1.23 cents, only paying a little different way. In Frederick County in the last six months we have changed our fiscal year to correspond with the calendar year—before our year ran from July 1st to June 30th. We made that change, levying our taxes. The last six months' taxes have not been received. At the same time, the State Roads Commission has overdrawn that amount. Evidently, force was put behind the proposition to get the money back to the counties. In this campaign that opposition came from Frederick County—I do not know whether that is the reason that we have not received this money or not.

SENATOR ENSOR: Do I understand you to say that the State Roads Commission has overdrawn that account \$75,000?

MR. SMITH: Approximately.

SENATOR ENSOR: But Frederick County has received that money and spent it?

MR. SMITH: Evidently they have. Between now and 1935 there will be a lot of bond issues coming down from our county unless we get this money back. Our tax rate will jump possibly from \$1.30 to \$1.40. I am wondering whether the other counties have the same experience.

MR. NUTTLE: Do I hear a motion to adopt this resolution?

MR. COCKEY: It is customary for the chairman of the Resolutions Committee to move that each resolution be adopted.

MR. NUTTLE: Only when we recommend them. We presented this resolution without recommendation. Now, do I hear a motion to adopt it?

MEMBER: I move its adoption just so we can have the discussion.
Motion seconded.

MR. NUTTLE: If no one else wishes to discuss it, I want to say that I thought it was largely local because I was going by the practice in Caroline County. I am by inheritance, I guess, a Republican. Personally, I am rather liberal in my party affiliations, and I vote on Election Day as I think I should. You can judge that I would not be prejudiced in favor of the program of Governor Ritchie, but this tax problem was not Governor Ritchie's. It is the Farm Bureau's and the Grange's baby, and if in the carrying out of that law which we all worked for, there has been an injustice in the administration in Frederick County, I feel that it is a local matter. Our situation is that the State Roads Commission has taken twenty cents off our tax rate, and are keeping up the roads, too. I know that in Kent County it was the same way. I talked to Marion Smith coming over on the boat. That is the reason that I said it was a local situation and should be ironed out by your Frederick County Bureau going to the State Roads Commission and finding out about where the trouble was. I think, however, we should hear from some of the other counties how you feel about it.

MR. ETZLER: The gentleman has misinterpreted our statement on this resolution. We do not feel that we have been mistreated any more than any other county. This was brought out and worked on by the Economy and Emergency Committee appointed in our county by two farm organizations. If I might take a minute, it was simply worked out by no political issue at all. We took a poll one day, it was brought out, and on that committee it happened to develop there were five Democrats, one Republican and one Independent. We do not care to discuss it politically; we do not want to do that. I am not a politician; I am speaking for my own local county; a certain amount of this money is allocated to each county and you can get it. Our chairman was misinformed. We are not fighting with the powers that be. But I want to go further than that. In the program that has been used by the State Roads Commission, if you will get your reports, you will find that this emergency program that you have set up expires in the fall of 1935, and you are faced with some new legislation, and we must do something before that time arrives and let your wants be known. The statistician's estimate is that we will receive in Frederick County a little better than \$200,000; this tax of 1½ cents goes to public roads; we do not have any say about that—retirement of road bonds and keeping up bridges—but this we do feel about it, we have about 1,150 miles of dirt road, and giving \$20 a mile to work them costs \$23,000. We have about \$25,000 for bridges and that runs the sum up to \$50,000 about. We could build in Frederick County—and any other county is very likely in the same situation—around twelve miles of hard macadam road to help the farmer. We got about six or seven miles of State road on an allocation of \$170,000. The money is gone, the taxpayers bear the rest of the burden. We have in Frederick County one mile of road that cost

approximately \$33,000 and an overhead of \$11,000, making a total of \$44,000 for one mile, and we feel that it could be done with less expense.

GENTLEMAN FROM BALTIMORE COUNTY: We were glad to have our taxes reduced. We do not want to take any action. I am going to suggest that Senator Ensor give us an explanation of this, give us his views.

SENATOR ENSOR: I did not expect to have to say very much on this subject. I think we are all aware of what happened during the general session of 1933. I am sure that Frederick County is well aware of what happened. I think every man here is. I think we are all satisfied that we have had considerable assistance in regard to the reduction of taxes in the year of 1934; some no doubt have more benefit than others due to the fact, as Mr. Etzler has said, that they had spent their money in advance. My own particular county, Harford, won't receive any benefit from the gasoline tax in reduction of taxes until about 1936. Of course, we do not know what is going to be done. We have spent our money previously—in other words, anticipated it through a bond issue and asked permission of the State Roads Commission that we be allowed to take the money that is allocated to us for roads. Other counties have had similar legislation. I am well aware that if this resolution passes, it is more than a local issue; it becomes the policy of the State Farm Bureau. It is not a Frederick County issue to my mind. It is a right delicate question. Sometimes it is much better to take a half loaf than to try to get a whole one and get nothing. It has been said from a legislative viewpoint that some counties could give us our portion of the gasoline tax and let us use our own money, but after you begin to look over and study the issue, it would develop that none of the counties would get much assistance. I am inclined to think that it is a very delicate question, and it seems to me that this question in regard to lateral roads or dirt roads should be left to the Legislative Committee or to your Executive Committee. I think it is going to be a very serious matter for discussion in your session of 1935. I know it is necessary to get your house in order, but we are all well aware of the fact that the administration of the State Roads Commission is not going to surrender the equipment that they already have. They have the facilities, they have the force to do this work, and, personally, I am inclined to think they can do it much better than we can as local people. It has been said, and frequently the counties feel that perhaps they could build more miles of road if the money were turned over to the County Commissioners. We all know that our County Commissioners have built roads before, and maybe they would last three or four years and then they would have to be built over. Personally, I would have to be against the resolution. Our county is in favor of the State Roads Commission taking over our county roads and spending the money that is allocated to our county. I think we have different views on this question. We know that we lost 10% of our lateral road money, and we know how that happened: it was very unfortunate for the counties, and I hope that the Farm Bureau

and our county men are not going to make a mistake and perhaps go back there and lose 10%. A large portion of this gasoline tax is going to lateral roads, and the Farm Bureau and the Grange must be in a position to stand together.

I think you have here a resolution that would, to my mind, do your organization more harm than good to pass it.

MR. WILLIAM H. MYERS (Talbot County) : What is the law with reference to taking care of the road bonds?

SENATOR ENSOR: The Act of 1933 provides that all or any part of your lateral road fund may be used or can be used for redeeming bonds that will expire in 1935.

MR. MYERS: That is in the discretion of the County Commissioners.

SENATOR ENSOR: Yes; in other words, I say, it is very liberal. It gives your county the right and, of course, your County Commissioners are looked upon as your county protectors, and the State Roads Commission also agrees that first they will consider and take your present county outfit. In other words, if your county has an engine, and if your engine is qualified to do the work, they will accept it. They do not definitely say they will, but they will consider it. I think the act is very broad. I do not think there is any question about that, though. This resolution seems to be for the future in 1935. That is what you are looking out for. There is no question about whether the county is satisfied or dissatisfied with the law as it is. Of course, we all know that any act is not perfect, and you may go down there in 1935 and change this act completely. That is the right thing to do, but you do not want to tie your organization up now to something when in 1935 we may have something better. Why should we not wait, and leave this matter up to the Legislative Committee, or to your Executive Committee? I presume that your Legislative Committee has some program.

MR. SMITH: We would rather that you either accept it or reject it.

MR. HARRY: May I ask the chairman of the Resolutions Committee if they have any resolution that might cover the tax question?

MR. NUTTLE: In our tax resolution we recommend that the money coming from gasoline shall be used exclusively for roads and nothing else, and shall maintain all our roads.

MR. HARRY: I think we should hear the other resolution. Perhaps it might cover this very point.

(The tax resolution submitted by the Resolutions Committee was thereupon read.)

MR. SMITH: Our idea in bringing this resolution down here was to work out the county program—that is, Frederick County's program—and for that reason I am going to support the resolution.

MR. NUTTLE: I am wondering whether it is not better to refer this Frederick County resolution to our Farm Bureau Tax Committee for consideration. It seems to me that would be a better way to handle it.

MR. HARRY: We do not want to disturb what has already been done. If I remember right, there was a thirty-cent savings on the taxes, and on a hundred-dollar tax bill that would mean a saving of \$30, a great saving. I would leave this to the Tax Committee, and let them make a report to us and then we would be in much better position to consider it.

MR. SMITH: I cannot conscientiously come down here and agree to that. I have the utmost faith in our Tax Committee, but we have a situation in Frederick County that might be different, and we do appreciate home rule in a way. We would not feel any worse if the resolution is lost, but we would rather have it decided now.

MR. HARRY: I move an amendment to the motion that it be referred to the Tax Committee.

Mr. Harry's amendment motion was seconded and carried, and upon vote the whole motion was carried, referring the matter to the Tax Committee.

MR. TURNER: We now come to our report of the Resolutions Committee.

MR. SMITH: As you all know, we are in a situation here in the Eastern milk market that needs something done about it, and since we heard our president speak yesterday we have gotten together—we have a telegram that we want to send to the Farm Bureau in Washington.

Day letter to Edward O'Neal, president American Farm Bureau Federation, Munsey Building, Washington, D. C.:

The directors and delegates of this organization, sitting in convention session, urge your executive committee to immediately cooperate with the Eastern dairy organizations in developing their program of milk marketing, and we especially urge your committee to use influence to secure adoption of pending code for the Washington milkshed. These matters are urgent and prompt action necessary.

MILES H. FAIRBANK, Sec.-Treas.,
Maryland Farm Bureau Federation.

MR. NUTTLE: I move that we ask the adoption of that telegram and instruct the secretary to send it to Washington.

MR. NUTTLE: Reporting for the Resolutions Committee, there are one or two points that I want to set forth. This report represents the majority opinion, the opinion of most of the members of the committee. I wish to make that statement before I start out. The individual members of

the committee reserve the right to oppose any resolution with which they did not agree.

I think as long as I have already read that tax resolution, it might be well to move its adoption first.

(Resolution seconded and adopted.)

(N. B.—Mr. Nuttle then read the resolutions in order as they were given him. I did not have a copy before me.)

The next resolution was seconded by Mr. Smith and carried.

The third resolution was seconded by Mr. Boyle and carried. (Marginal lands.)

The fourth resolution (C. W. A.) was seconded by Mr. Lupo and passed.

The fifth was seconded by Mr. C. H. Chilcoat and passed.

The sixth was seconded by Mr. Claude Phillips and carried.

The seventh was seconded by Mr. Smith and carried.

The eighth (transportation) was seconded by Mr. Lupo and carried.

The ninth (telephone rates) was seconded by Mr. Smith and carried.

The tenth was seconded by Mr. Boyle. Dr. Symons moved an amendment including the Health Department as well as the City Council. Resolution carried with amendment.

The eleventh was seconded by Mr. Smith. (Tomato industry.)

DR. SYMONS: I would like to pause for a moment to say a word about that resolution. All county members should understand it. It is proposed to call a meeting to ascertain the viewpoint of the farmers as well as the canners. It would require that canners contract for the acreage and growers agree to contract in advance. They could agree together on a fair contract price; it would help to stabilize the market, if farmers can contract at a fair price to sell their product to the canners. That is the intent of this resolution. I believe it would be helpful to the industry. It has not been entirely worked out now, but following this convention we will carry the matter to Washington as representing both the thought of the canners and the growers.

The resolution was duly carried.

The next resolution (utility rates) was seconded by Mr. Claude Phillips and passed.

The next resolution (agricultural opportunities) was seconded by Mr. Stagg.

DR. SYMONS: It is only fair to say at this time that our Legislature cut 40% of our appropriation, and now the Federal cut of 25% will be effective on March 1st; 25% on all Land-Grant funds throughout the country. When you understand that our budgets have been set up on a fifty-year basis, you will understand what that is going to mean to us. The new budget that comes from Congress has this 25% reduction. It has been a difficult matter for all of us to meet the demands with the State cut; now with the 25% cut we will have to eliminate a number of agencies

which we have at College Park, as well as any other Land-Grant college in the country. We recognize that the President knows as much about Land-Grant colleges or institutions as any other president, and we give him credit for wanting to help. It is his belief that the emergency money might be available to help out, but we do not yet know about that. That would supplement the 25%. When you understand that these institutions were organized on a fifty-year basis—our extension work set up in 1914—you can realize what this cut will mean to the several institutions. I only mention that to explain the intent of this resolution.

MR. NUTTLE: The State Legislature cut you 40%. Is that right?

DR. SYMONS: Yes, 10% on the other State departments, 40% on the University of Maryland.

Next resolution (crop liens and mortgages) was read.

SENATOR ENSOR: Are you aware of the fact that the last Legislature made provisions that the recording of crop liens should not exceed \$1.00? That act was actually passed, and is in effect at the present time.

MR. FAIRBANK: That resolution came from one of the counties.

MR. MAGRUDER (Howard County): To my knowledge they are charging \$1.50 for the smallest lien. I do not know whether our people are still paying more than that for recording those releases.

SENATOR ENSOR: The bill was introduced by Senator Donovan of Howard County. It provides that a receipt is evidence of settlement. The clerk of the court is authorized to release the recording of the lien on receipt of the bill.

MR. FAIRBANK: When this resolution came before the committee in the exact form submitted by Howard County, the committee realized that they were not in a position to know. I was asked if there were any law, and I had overlooked that there was a law passed by the Senate and the House. We thought at the time that it was not.

MR. NUTTLE: I move an amendment to that resolution, that it be referred to our Legislative Committee for consideration.

Mr. Harry seconded the amendment.

MR. HARRY: I would like to ask whether that only takes care of the loan passed—does it take care only of the recording?

SENATOR ENSOR: It provides that the recording fee shall not exceed \$1.00. It does not take care of searching title for bills of sale; that would be the charge of whatever attorney took care of it.

MR. HARRY: Just in regard to crop liens?

SENATOR ENSOR: Just crop liens.

The resolution with amendment that it be referred to the Legislative Committee was seconded and passed.

MR. NUTTLE: I want to make one request; that I hope next year there will be another chairman of the Resolutions Committee, because it takes all the fun out of the convention; you do not have any time off. The committee has been very fine in cooperating with me, even left after the Wallace speech, 90% of the committee met then.

The collective resolution was read by Mr. Nuttle and moved for adoption. Mr. Weagly seconded it and it was passed.

Mr. Nuttle then moved that the resolutions be adopted as a whole, with the exception of the amendments. Motion seconded and carried.

Mr. Nuttle read the names of those who had served on the Resolutions Committee.

RESOLUTIONS ADOPTED BY THE MARYLAND FARM BUREAU FEDERATION

January 12, 1934

.. .. Organization and Program

WHEREAS, The farmers of this State are evincing a steadily increasing interest in public affairs and in the business relation of their industry, and,

WHEREAS, The response to the emergency measures promoted by the administration for the relief of agriculture has enlisted a large per cent of our farmers in cooperative endeavor to attain the respective needs;

Be It Therefore Resolved, That this convention appeal to the leaders of our State and county organizations to utilize this opportunity to enlist the continued interest of these new forces in the discussion of constructive measures that organized agriculture wishes to present for solution.

We urge that the County Farm Bureaus set up special committees to attack many of the problems that have been presented to this convention as offering an opportunity for intelligent discussion and constructive solution.

We believe that if our county organizations utilize the latent force that exists within our counties they will demonstrate the real purpose of organized agriculture and show the advantage of open forum discussion and leadership that only can be made available by giving our forces something worth while to accomplish.

We suggest for consideration by the special county committees the 26 "problems on our own doorstep," as mentioned by Dr. T. B. Symons in his address of Wednesday and listed on circulars distributed through the audience at that time.

Resolutions of the American Farm Bureau Federation

It shall be our policy, as in the past, to support the American Farm Bureau Federation in their general program for the rehabilitation and representation of agriculture. We recognize, of course, that with the many diversified interests represented by our industry and with the various sectional problems that arise, many of the resolutions passed by the fifteenth annual meeting of the American Farm Bureau Federation may not be in strict accord as to detail with the specific problems of Maryland farmers. However, we know that the general program of the American Farm Bureau Federation is sound, constructive and intelligent and deserves the full support of every thinking farmer in the country and it is our purpose to so support it to our fullest extent.

Marginal Land

The State Farm Bureau recognizes the marginal land problem as one that immediately should be given careful consideration and recommends that Federal and State agencies develop a coordinate program of land utilization for the many areas of idle or misused lands. The immediate task is to deal constructively with the areas that are becoming tax delinquent.

We commend the work of our experiment station in cooperation with Federal agencies in completing the soil survey of the State and in the study of the potential productive capacity of our soils.

We feel that our State is in a preferred position to cooperate with the Federal government in plans for the early acquisition of such marginal and tax delinquent lands as will conform to a broad and constructive policy of better land use.

We, therefore, recommend that this convention authorize our president and board of directors to appoint a special committee to cooperate with our State and Federal agencies with a view of inaugurating a constructive policy of better use of our marginal idle and tax delinquent lands.

CWA Labor Costs

Believing as we do that labor should receive its proportionate share of the nation's wealth, we commend the action of the administration in creating labor for our unemployed.

However, representing a majority of the farmers of the State of Maryland and realizing the impossibility of our farmers paying wages equal to those allowed by the CWA, we recommend to the present administration that they seriously consider the condition which has been created in our counties in regards to labor and agriculture.

We especially call their attention to the fact that the purchasing power of our farmers is still below parity with other industry, and since the planting season in Maryland is fast approaching, our farmers will be unable to secure labor in competition with the present program and wage scale of the CWA.

We urgently recommend that an equalization wage scale be worked out making it possible for our farmers to secure labor to plant and harvest their crops with full assurance that as soon as agriculture can profitably compete with wages paid by the CWA, we pledge our support to the restoration of the same.

Currency Reform

In view of the fact that the nation is now embarking upon a program of currency reform and in view of the further fact that the principles involved are those that have been advocated by the American Farm Bureau Federation in their so-called "Honest Money Program," namely, a variation in the value of the dollar based upon commodity values, we urge that our county Farm Bureaus include in their plans for the coming year meetings at which this currency problem shall be discussed, and public opinion be enlightened.

Truck Legislation

We do not believe that the present situation resulting from the changes that were made by the recent State Legislature in the laws covering the licensing of automobile trucks, in their relationship to the reciprocal agreements between neighboring States is satisfactory or beneficial to our farmers, and to that end the Maryland Farm Bureau in cooperation with the University of Maryland and other interested agencies undertook a survey of the entire truck licensing and transportation situation, especially in its relation to the farmers of this State. We recommend that this survey be completed as rapidly as possible in order that the board of directors of the Maryland Farm Bureau Federation may draft suitable recommendations for changes in the present laws relating to truck licensing.

Credit for Farmers

The Maryland Farm Bureau Federation has always believed that the credit needs of farmers were not adequately served through the normal channels of our banking system. This, in turn, has called for emergency financing by the Federal government, principally during the time of stress, which type of financing has neither been satisfactory nor complimentary to the agricultural industry. We feel, therefore, that the principles behind the Farm Credit Administration are a step in the right direction to supply a system of credit for farmers and for agriculture generally through cooperative organizations that recognize a distinction between industrial and agricultural financing.

It is a pleasure for us to endorse the men who have been placed in positions of responsibility by the Farm Credit Administration in the Second Land Bank district with offices here in Baltimore. Our relations with these gentlemen have convinced us that they are farmer-minded, and that they are in sympathy with this legislation and that they are proceeding along the lines designed to make this system of utmost benefit to the

farmers of this State. We pledge our continued support to the Farm Credit Administrations of Baltimore.

Transportation

We are in full sympathy with the wise and conservative consolidation of railroads in the interest of public economy, since we believe such consolidations are inevitable in the interest of good business management, public service and to meet the needs of national development. We feel, however, that it would be unwise to consider a wholesale consolidation of Eastern railroads in accordance with the so-called Prince plan without seriously taking into consideration the effect that this would have upon other phases of our economical life aside from the railroad interest.

We are opposed, therefore, to the so-called Prince plan consolidation because of the serious negative effect which we feel it would have upon the railroad interest and the adjoining public and private property, both in the cities and in the rural sections of this State.

Telephone Rates

A year ago we expressed our belief that a reduction should be made in the telephone rates charged to rural people. We, therefore, took a keen interest in the proceedings of the Public Service Commission recently in the hearings that were held relative to this matter. It is our belief, passing upon information which we have considered carefully, that the Public Service Commission was fully justified in requesting the Chesapeake and Potomac Telephone Company to reduce their rates.

We commend the Public Service Commission for this action and pledge our support to them in their efforts to sustain their order of a reduction in rates.

Taxation

We feel that one of the outstanding accomplishments of the Maryland Farm Bureau Federation during the past two years has been the successful campaign conducted to correlate and consolidate the various interested organizations and groups within the State behind a taxation program that was designed primarily to reduce the burden of the taxpayers of the State.

The Maryland Farm Bureau Federation, two years ago, recognized that there was widespread concern over the rising tax bill of the property owners in the State of Maryland and that a number of organizations, as well as individual leaders, had proposed various plans and programs. We assumed the responsibility, in cooperation with the Maryland State Grange, of developing a State program, centering principally around the maintenance of county roads from the funds accruing from the gasoline tax and for economies to be effected by various State agencies so that thereby further aid could be given by the State to the maintenance of schools in the counties.

This program was presented by the leaders of the Maryland Farm Bureau Federation to other organizations of the State, to the Governor's Tax Survey Commission, to the associations of County Commissioners and to other groups throughout the State. The resulting legislation passed on those recommendations has had the effect of lifting the tax burden in the counties of Maryland to the extent of three and one-half million dollars annually.

We feel that this accomplishment had a dual effect in that it not only relieved the actual financial burden resting upon the property owners of the State, but that it had the further effect of bolstering the morale of our rural people during the most distressing period. It is our opinion now that the time has come for the Farm Bureau to enunciate a broad and comprehensive tax program upon which we can base the immediate program of this organization.

Taxation presents many of the most serious economical and social problems confronting agriculture. Taxes levied on property are inequitable and have become extremely burdensome and yet we recognize that the functions of government of a progressive and intelligent people can be subjected to serious maladjustment by installing programs of economy. We are, therefore, opposed to a taxation program that endorses a wholesale cutting down of expenditures, salaries, etc., without taking into consideration the functions of the agency effected, in view of the fact that such a program penalizes the more efficient agencies of government and carries along considerable dead wood that has become unnecessary and antiquated through changed conditions.

We feel that the total cost of government, Federal, State and county, aside from the emergency program is unnecessarily high, but we feel that economy can be best effected by the setting up of a commission similar to the Governor's Tax Survey Commission of last year to make a complete study of the re-organization of State functions for the particular purpose of reducing the tax burden, and that only such governmental service should be continued as can be justified on the basis of merit in the light of existing economical and social conditions and in the light of alternative methods of meeting the respective needs of associations for which governmental services are performed. We are, therefore, in accordance with and heartily endorse the principle enunciated by the American Farm Bureau Federation in that "taxes to finance the fundamental service of government should be levied in accordance with the principle of ability to pay." Fundamental services are here interpreted to mean those which are essential to the economic, social and political welfare and safety of the people. Special services of government other than those referred to above as general should be financed wholly or in part from fees or assessments levied in accordance with the benefit "principle." In view of that, we feel that the present law relative to the disbursement of the funds accruing from the gasoline tax and motor vehicle licenses should be spent to maintain our entire road system, both state and county, and that this

burden should be lifted permanently from the property owners. We further feel that a redistribution of the tax burden between those who are property owners and those who enjoy incomes, but own very little property, should be adjusted through the adoption of a State income tax. We are opposed to a sales tax upon the principle that the sales tax is not a replacement tax and that it should only be used in times of dire necessity as an extraordinary means of raising additional public funds, but that it imposes an unfair burden upon those less able to pay.

In enunciating these principles we urge our Farm Bureau Tax Committee to proceed to develop a detailed program for presentation to our board of directors, looking towards subsequent legislation.

Farm Inspection of Meat

We feel that Ordinance No. 466 of the Baltimore City Health Department, which relates to the licensing of establishments and places of business in Baltimore City handling meat or meat food products, is, while strictly in accordance with the philosophy of protecting the city's health, working an unfair hardship upon a particular class of our farmers in that the provision as now interpreted makes it necessary for those farmers who butcher their own hogs and cattle for retail trade must be subjected to Federal inspection the same as an established packing house, which inspection is obviously impossible. We feel that this works a hardship also upon those consumers who have for years looked to these farmers to supply them with fresh meat direct from the farm and we urge that effort be made to present these facts before the City Health authorities and the Baltimore City Council in an effort to amend this ordinance so as to correct this situation.

Tomato Industry

We are tremendously concerned over the fact that the tomato canning industry in Maryland and to some extent in the United States is in a very unstable condition, due largely in this State to the practice of buying and selling raw stock on an open market basis and to the further fact that there has been no great effort in the packing industry of this country to develop means of stabilizing this particular industry.

We believe, therefore, that a practical approach to this problem would be to put the purchase of canning tomatoes on a contract basis. We desire that some action be undertaken to secure the cooperation of interested organizations to make that the policy of the industry. We further believe that a certain amount of acreage control would be beneficial if the system is applied to all tomato-producing sections of the United States and that some method of allotment similar to that proposed by the Wisconsin Pea Cannors would be fair for the allocation of acreage for this crop. We believe further that in view of the necessity for stabilizing the industry, advancing the quality of the products and meeting the sanitary conditions required by the consuming public, that it will be in the interest of canners

and farmers to recommend the buying and selling of canning tomatoes on the basis of United States grades.

Utility Rates

There is a widespread belief in several sections of rural Maryland that the rates being paid by farmers for electric power and light are unnecessarily high and out of proportion to the general price level. There also seems to be no uniformity among the different electric light and power companies in the methods used in arriving at rates charged. We recommend that the Directors of the Maryland Farm Bureau Federation appoint a committee to present this situation to the Public Service Commission and request that a survey be made of the rates charged by electric light and power companies covering the entire State in order that an intelligent recommendation on this subject may be made.

Agricultural Appropriations

We feel that the proper agencies through which such responsibility as the field work connected with the Agricultural Adjustment Administrations and the organization and advisory duties as shall arise in connection with the Farm Credit Administration should properly be concentrated in the interest of efficiency and lowest possible cost through the present forces of the Extension Service in this State. We feel, also, that the many important matters that require investigation as well as the need for intelligent and detailed surveys in the interest of rural people can best be conducted by the members of the staff of the Maryland Experiment Station and the University of Maryland. We feel, therefore, that it is unwise for the State Legislature to curtail the funds of the University of Maryland out of proportion to the reductions made to other State agencies in the general economy program and we feel that such reductions made by the last legislature were unnecessarily drastic and are working a hardship upon the agricultural industry during this reconstruction period.

We further urge upon the President of the United States and our Congressmen that the contemplated 25 per cent reduction in Federal funds to our Land Grant Institution be recinded. The farmers of the State are using those agencies more today than in any time of their existence. We, therefore, respectfully recommend that the Federal appropriations for this work be continued without the contemplated reduction.

We, the Maryland Farm Bureau in convention assembled, wish to extend to Secretary of Agriculture, Henry C. Wallace, our thanks for his presence and his illuminating address of Wednesday night. While he did not give us reason to hope that the clouds would soon lift, yet we believe in him as a conscientious public servant with vision, and value his leadership in these perilous times.

We also wish to express our appreciation of the inspiring leadership of President O'Neal and to thank Governor Ritchie, Mayor Jackson and

President Meese of the Baltimore Chamber of Commerce for their presence and friendly attitude toward the farmers.

We wish to express to the other speakers on our program our gratitude for their messages and cooperation.

We also thank the Press of Baltimore City and the counties for the favorable and generous publicity they have given us.

The management and staff of the Lord Baltimore Hotel have been unceasing in their efforts to make our stay with them pleasant and we appreciate the many courtesies shown us.

We also thank the Police Department of Baltimore City for the courtesy extended our members relative to the parking of their automobiles and to the Park Board for their cooperation in decorating the speakers' platform.

We thank the Rosewood Training School Band for their contribution to the success of our banquet.

To Charles T. Cockey, Jr., our president; Miles H. Fairbank, our efficient secretary and his assistant, Miss Margaret Dressel, and to all who have in any way contributed to the success of this convention do we extend our heartfelt thanks.

(Signed) HARRY H. NUTTLE, *Chairman*

CLAUDE C. PHILLIPS

J. D. DAVIS, JR.

R. C. F. WEAGLY

WILBERT L. SMITH

SAMUEL LINTON

E. A. SHOEMAKER

NEWELL STAGG, JR.

MRS. HARRY T. WILLIAMS

DR. T. B. SYMONS

MILES H. FAIRBANK

Mr. Fairbank read the Nominating Committee's report.

Mr. Turner called for nominations from the floor.

Mr. Smith moved that the nominations be closed. Motion seconded and carried. Mr. Cockey and Mr. Nuttle declared elected.

Mr. Cockey thereupon took the chair.

MR. COCKEY: Gentlemen and ladies, probably I should start out with the usual remarks of a good many speakers, that I have heard, who have been elected to offices that they have been working for for a long time—politicians—"This is so sudden and unexpected that I really did not have time to prepare a speech."

I would like to say that I appreciate exceedingly your vote of confidence in me for the manner in which I have conducted myself in the last year. I have tried to serve you in the way that your organization by resolution and request has directed. Above all things, the success of any organi-

ization depends on two things—two primary things. The first is complete harmony and cooperation, and that is particularly true in cooperative organization in my judgment. The second is that we have a secretary with ability and a vision and energy to carry out the serious work that position requires. The secretary's position is the most vital in any organization, whether cooperative or any other. I think we have such a man at present. He is the man to whom the most credit should be given and the most blame should be given either in the success or the failure of any organization. That is not a sidestep on my part.

As I said to you about one year ago, if you made me your president, expecting a speech maker, you have made a great mistake. I will work, I will obey orders, but I am not a speech maker. I would like to say to you people in the various counties that I wish it were possible for me to get around and visit you often. I want to say further to you that there is a business aspect to that, your officers are spending your money, your money is invested for certain purposes, and if your money is wasted foolishly by your officers, your officers are to blame. Now, I consider that many times both your president and your secretary would like to visit you in your various social activities in your counties, but it would be a great expense to you, it just costs you your own money for both of us to visit you at the same time. I don't think unless by the two of us coming we could be of some real use to you, that it would be worth the money that would be spent. We have not visited many counties together. We talked that over in the office. Mr. Fairbank has been with you much oftener than I have; he is a very able speaker, he has wonderful qualifications, a good thinker, and I am sure that he can present any problem to you much better than your president can, and he can analyze better.

We want your criticism, and we will not restrict it. I hope you will bear that in mind. We want to know what is in your minds, we want to know whether what we are doing meets with your approval. Now, I mean that to every individual. Your criticisms will be welcomed, and I hope you know when things go along too smooth it always kind of scares me a little. I think we might expect a blow-up at any time. We want to know what is in your mind and unless you tell us we do not know.

I do not know that I can say any more. I certainly appreciate your vote of confidence. I wish I was half as good as many, many of you members. Many of you could fill this job much better than I can. It has been about the greatest surprise of my life that you should have selected me to this great honor. I know that there are many men in our organization who could serve you much better than I can. I am very much obliged to you for your patience in listening to me this morning. I do not want to take up any more of your time and I thank you very much.

I now have the extreme pleasure of presenting to you my good friend, Mr. H. Nuttle, from Caroline County, as our vice-president.

MR. NUTTLE: You know Cockey says he cannot make a speech, then he goes to the Grange and to College Park, and the reports come back that he made a wonderful speech. I hesitate to follow him in the speaking. Anyway a vice-president is just a sort of spare tire to an organization. I am ready when you need me. This year we did not have any blow-outs, so you did not need me except for executive meetings and the Resolutions Committee.

Mr. Fairbank made some announcements.

MR. COCKEY: I hope you members have enjoyed yourselves at this convention. If there is nothing further to be brought up we will now adjourn this convention sine die, and I therefore declare it adjourned.

PROCEEDINGS
of the
Maryland State Horticultural Society
TUESDAY MORNING
January 2, 1934
COLLEGE PARK, MARYLAND

The Thirty-Sixth Annual Meeting of the Maryland State Horticultural Society was held in the Horticultural Building, University of Maryland, College Park, on Tuesday, Wednesday and Thursday, January 2, 3 and 4, 1934.

In connection with the meetings a special effort was made to show the growers, through exhibits and demonstrations, the latest results and methods in fruit washing. This was accomplished through the exhibition of five mechanical fruit washing machines, four of which were manufactured commercially, the fifth machine being a home-made washer built according to specifications of the United States Department of Agriculture. Demonstrations of the operation and drying efficiency of these machines were given. The efficiency of various types of washers employing different washing solutions and materials were shown graphically in an exhibit, under the auspices of the United States Department of Agriculture.

There also was an exhibit of three of the latest types of spray machines, where growers were given the opportunity to try out the actual operation and differences between various types of guns and nozzles, the pressure ranging as high as 800 pounds. A commercial exhibit of three types of tractors as well as tillage machinery completed the mechanical exhibits. In addition, there were 15 commercial exhibits of spray materials; packing equipment and materials; nursery stock and fertilizers. An exhibit showing the various phases of insect life and insect control was shown by the Student Entomology Club of the University, and an educational exhibit of fruit varieties from other states was shown by the Students' Horticultural Club. An educational exhibit by the Horticultural staff and the Maryland Agricultural Experiment Station showed graphically the experimental work with fruits which is now in progress in Maryland and also summarized results to date. A fruit exhibit was made possible through the cooperation of several fruit growers of the State and added much to the beauty and completeness of the Show.

The meeting convened at one o'clock, January 2, in the auditorium of the Horticultural Building. The President, Mr. G. S. L. Carpenter, presided and called for the report of the Secretary-Treasurer, Mr. A. F. Vierheller.

REPORT OF THE SECRETARY-TREASURER

A. F. VIERHELLER,
College Park, Md.

I wish to report that the resolutions which were passed at the last annual meeting were sent to the various persons and organizations, and I feel sure that they received proper consideration. The annual report was edited and placed in the mails on March 22, 1933. We had excellent cooperation in getting the report printed earlier, but it was held up in some cases due to last minute corrections by the authors.

During the past year we have had several communications from various other horticultural societies over the country regarding spray residue, and your secretary has pledged the support of this Society only in those requests and resolutions, in regard to the spray residue problem, which were considered reasonable.

In September, the New Jersey Horticultural Society and the Peninsula Horticultural Society asked your secretary to join them in probing the cause of increased basket prices. After visiting the various agencies, both commercial and governmental, having to do with this matter, it was found that little could be done this season, but there may be hope that better prices will prevail next year.

The summer meetings of the Horticultural Society were held on July 18 in the A. H. Nofsinger orchard, Cockeysville, Baltimore County. A very pleasant, instructional day was enjoyed. The events of the day included inspection of the roadside market, common storage, by-product plant, packing house and orchard, the inspection being personally conducted by Mr. A. H. Nofsinger. After a picnic lunch, a short program of speaking was held at which time markets, spray residue, etc., were discussed. The group then proceeded to the C. K. McCaslin orchard where results of peach thinning and apple tree top-working demonstrations were discussed. The meeting adjourned at this point.

On July 28 another meeting was held, starting from the Clenallen orchards near Hancock and driving to the Marvania orchards where peach packing was in progress. The results of various types of thinning were inspected and discussed at this orchard. Lunch was had on the lawn of Mr. J. A. Cohill at Hancock, after which a discussion and demonstration of insect injury and control was given by the Entomology Department of the University of Maryland, at their field insectary. The tour then proceeded to the Corona Orchards, where the effects of summer, monthly applications of nitrate of soda on apple trees were shown. The group then proceeded to the orchard of Mr. R. S. Dillon, where they observed the results of experimental early thinning of apples to certain distances, and the effect of such thinning on biennial bearing. The group then proceeded to the cold storage building on the Dillon orchard, where a short program of speaking similar to that held on July 18 was given, after which the meeting adjourned.

I want to thank our hosts on these occasions for their fine cooperation and hospitality.

I wish to report a total paid-up membership of 153 and ask every fruit grower to help make our Society membership include every fruit grower in Maryland as a paid-up member.

As in the past, I have prepared no comprehensive report, but simply state that our cash on hand on December 1, 1933, was \$530.76. Our books are open for inspection by any member of the Society. We were fortunate in having lost no checks in the banks in the past year and our bank opened on a 100 per cent. basis. I request that an auditing committee be appointed to examine the books.

The annual address of the President was given.

PRESIDENT'S ADDRESS

G. S. L. CARPENTER,
Hagerstown, Md.

Fellow Fruit Growers:

Since 1930, the fruit industry in this section has experienced many difficult situations.

The droughts of 1930 and 1932 injured all orchards.

The dry, hot weather prevailing for the past few years has been favorable for the rapid development of insects.

The economic conditions prevailing throughout the world forced our growers to reduce the expense of their operations.

Measures adopted by countries consuming large quantities of our apples largely eliminated our export outlets.

We have, therefore, experienced the most difficult conditions under which our fruit could be produced and marketed.

Droughts—The droughts of 1930 and 1932 developed many of the weaknesses of individual trees and of entire orchards.

Individual trees not having healthy root systems suffered most, dying back from the tips of the branches; in many instances, followed by black rot cankers, which destroyed either limbs or entire trees.

Certain soil types were shown to be poorly suited for profitable fruit growing. Apples planted on the Chert Mountain soils suffered the least and justified the confidence of the Millers of Paw Paw, and those who have since followed them in planting orchards on this type of soil—the Leathermans, Cornwells and among others, James S. Harris, one of the past Presidents of our Society.

Limestone soils, and particularly those where the outcroppings of rock do not limit root development, have proven satisfactory.

Orchards planted on shale soils, and particularly those shallow in character, have suffered most. On this type of soil cover crops, which are important on all soils, determine the possibility of operating these orchards successfully.

Insects—Because of favorable weather conditions, insects have established themselves in most of our orchards; and owing to the tolerances for arsenic, fluorine and lead, many of our growers in the East have been reluctant to apply sprays late in the summer that would necessitate the removal of residue by washing. For the coming year we must use the most effective insecticides, combining them, when conditions require, with materials to increase their efficiency. We must first plan to control insects not only with spray materials, but with bands and other sanitary measures. Should the population of insects in our orchard require heavy applications of spray materials, we should first plan to control worms; and then plan the removal of the residue by washing. Many growers will not find this necessary if their orchards have been kept relatively free from worms; but in those orchards where serious damage occurred the past year, do not try to "straddle the fence." The control of insects and diseases is the most important of all orchard operations. Good fruit *only* brings satisfactory returns in packages or at the by-product plants. Good fruit must be grown if the orchard is to be profitable.

Economic Conditions—Economic conditions have acted as a two-edged sword in depreciating the value of fruit both in our foreign and domestic markets, reducing the grower's income for fruit produced. This made necessary the reduction in operating expense at a time when the orchards required the best of treatment.

Pruning was partially or totally eliminated following the drought injury, when relatively heavy pruning was necessary to restore the balance between the roots and the tops of the trees.

Fertilization was totally or partially eliminated when the trees required it most to restore lost vigor.

Cover crops were totally or partially eliminated when additional cover crops were necessary to restore the vegetable matter lost in the drought years and to maintain and increase the vegetable matter, which is deficient in all of our soils.

Spraying was eliminated whenever a grower thought he might take a chance; and, in many instances, eliminated entirely where funds were not available. This was at a time when the tree needed to have every leaf a healthy leaf in order to restore its normal vigor.

Where the neglect was greatest, orchards have reached a condition where they can no longer be maintained; and much acreage will be entirely eliminated from commercial production.

Export Movement—This district probably depends more on export outlets than does any other apple producing section in the United States. While no accurate figures are available, information received indicates that approximately 65 per cent. of the production of apples in Virginia, West Virginia, Maryland and Pennsylvania is exported in normal years. A curtailment of this outlet is, therefore, a most serious matter for our growers. For the past few years, many types of restrictions have been

set up that have checked and, in some instances, practically eliminated our exports of apples. These restrictions have likewise assisted in building up apple production in many foreign countries.

Our export business has benefited materially from the devaluation of the dollar; and had it not been for this action on the part of our Government, our export movement would have been on an unprecedented low level.

Recently, the first of a new type of reciprocal arrangement was effected with France, by which France guaranteed a market for 20,000 tons of American apples and pears in exchange for an increase in our liquor import quota to them of 784,000 gallons of French wines. This provides a market in France for the balance of this season of about 1,000,000 bushels of American apples, as the pear exporting season is almost terminated. Further agreements of this character may eventually lead to the restoration of a great portion of the export movement which we formerly enjoyed.

At this time of the year growers are making plans for the production of a crop of apples almost a year in advance. It is impossible to forecast the conditions that will prevail at the time when this fruit will be harvested and placed upon the market. Good fruit must be grown if the operation is to be profitable. This means:

First, control of insects and diseases.

Second, washing the fruit, if necessary.

Third, handling other orchard operations as well as conditions will permit.

Last year, the most successful orchardists in this district were those who did not cut corners or take chances, but performed each operation as well as they knew how. There is no reason to believe that this condition will not hold true this year.

President Carpenter appointed the following committees:

NOMINATION COMMITTEE

G. Rust Canby
W. Lee Allen

Frank Hanson
Dwight Walker

RESOLUTIONS COMMITTEE

E. D. McCain

Stanley Fulton

Carlyle Barnes

AUDITING COMMITTEE

William W. Moore

Joseph Harrison

George C. McClain

President Carpenter introduced Professor F. S. Hartzell of the New York Agricultural Experiment Station.

THE ROSY APHID AND ITS CONTROL

F. S. HARTZELL,

Associate Research Entomologist,
New York Agricultural Experiment Station,
Geneva, New York.

In meeting with you this afternoon I purpose to discuss results of experiments and growers' experiences with a number of spray materials and mixtures in attempts to combat the rosy aphid in New York. There is quite a wide difference in orchard and climatic conditions between New York and Maryland when we consider commercial varieties of apples, soil, importance of specific insect pests and perhaps fungous diseases. Climatic differences are especially marked.

It is not my aim to attempt to give you detailed directions for treating your orchards. In such men as Professor Cory and his staff, together with the plant pathologists and horticulturists of this institution, you have able men who are better qualified than I to give you this assistance. However, our discussions at this meeting may be of mutual benefit, since we may have approached similar problems from different angles, or each may have had opportunities afforded that were not open to the other. If I am correctly informed, the rosy aphid has been troublesome over a longer period of years and the probability of its being destructive during any season is considerably greater in New York than in Maryland, so we have been compelled to devote more attention to this insect. For these reasons you may be interested in a brief discussion of the prevalence of the pest and of efforts to control the same.

Prevalence of Rosy Aphid Injury in New York

A brief digression may be permitted at this point to say a few words regarding the frequency and intensity of rosy aphid attack in New York. It will be noted in this state (shown on chart) that among other data, records of rosy aphid abundance for the past eleven years are shown. During that time the insect was practically absent for two seasons (1923 and 1928), separated by an interval of five years, but that six seasons may be classed as aphid years, during which the insect was of considerable commercial importance. Moreover, these severe outbreaks did not occur periodically. In fact, from 1929 to 1931 there was heavy infestation annually. If the records previous to 1923 are examined much the same story is told. Generally speaking, similar conditions prevailed in the majority of commercial orchards in western New York during the same period. Occasionally an orchard is found where annual attacks of great severity occur unless treatment is given. On the other hand, there are plantings where less intense infestation is found each year. Usually, such varieties as Baldwin, Ben Davis, Cortland, Rhode Island Greening, Grimes Golden, King, Rome Beauty, Northern Spy, Stayman, Twenty Ounce, and

Winter Banana are quite seriously injured by rosy aphids and hence require annual spraying for rosy aphid. A few commercial varieties are seldom attacked with sufficient severity to cause heavy loss of fruit; namely, Duchess of Oldenburg, Early McIntosh, McIntosh, Macoun, Wealthy, and Wolf River.

Brief Resume of Rosy Aphid Experiments

Because the rosy aphid has been, and still is, one of the principal apple insects in New York, especially in the western portion, experiments for its repression with various materials have been made by entomologists at the Geneva Station during the past thirty years. Throughout this period nicotine sprays have played a prominent part in the experiments and recommendations. Since the advent of nicotine sulfate about 1910, one pint of this material, with lime-sulphur, $2\frac{1}{2}$ gallons in 100 gallons of spray mixture (11 gallons if San Jose scale were present) applied at the delayed dormant stage, has been, and still is, the official recommendation for the control of rosy aphids in New York orchards. During these thirty years various materials have been tested against this pest, many of which were proven either inefficient or objectionable for various reasons. However, during the past ten years or more certain mixtures have been tested that possess merit—some more, some less—in suppressing the rosy aphid.

The following mixtures seem worthy of notice, all of which are expressed in the quantity used in 100 gallons of spray mixture: (1) Nicotine sulfate, 1 pint in lime-sulfur $2\frac{1}{2}$ or 11 gallons; (2) bordeaux mixture, 4-8-100, and lubricating oil having a viscosity of 100 seconds at 100° F. (Saybolt), 3 gallons, nicotine 1 pint; (3) ground tobacco, 40 pounds, in lime-sulphur $2\frac{1}{2}$ gallons; (4) cresylic acid, $\frac{1}{2}$ gallon in 3 gallons of lubricating oil; and (5) tar distillate emulsions at various concentrations. Tables will be shown later which give data on these several mixtures against rosy aphids. However, before comparisons are made it seems advisable to describe and discuss this latter type of spray material.

Tar Distillate Emulsions

Reduced to simple terms, these mixtures consist of certain coal tar oils to which have been added emulsifying agents for the purpose of making the oils miscible with water. Let us first consider these tar oils. How are they made and what are their properties?

Refined creosote oil obtained from the distillation of coal tar is the constituent of these emulsions that gives them their name. Coal tar is formed during the manufacture of coke and illuminating gas. Bituminous coal is heated to about 2000° F. (1100° C.) in a by-product coke oven. The vapors coming from the oven are piped to a cooling chamber and the material that condenses is known as coal tar. For the manufacture of creosote oil, this tar is placed in large steel stills and heated at gradually increasing temperatures. After the water has been driven off the mate-

rials that distill below 392° F. (200° C.) are collected and removed for other uses, since they contain valuable chemicals which at present are not desired for spraying trees. The portion that distills from 392° F. (200° C.) on up is known in America as crude creosote oil. In Europe this portion is divided into several fractions and these oils are known by different names, so the term "tar distillates" has been applied to the entire portion above 392° F. (200° C.). The heating is continued until a temperature of 680° F. (360° C.) is reached if a soft pitch is desired, but may be carried to 752° F. (400° C.) if a hard pitch is wanted. The material remaining in the still is known as pitch.

The fraction of creosote oil utilized for the preparation of tar distillate emulsions is a refined portion that is obtained by redistilling the crude creosote oil to remove light boiling materials as well as the heavy materials that distill above 680° F. (360° C.) and are solids at ordinary temperatures. This selected portion is then chilled to 41° F. (5° C.) and put through a filter press to remove crystalline materials that would otherwise separate out in cold weather and cause trouble in spraying. The result is refined straight run creosote oil. This is the material generally used in the emulsions in this country.

The specifications for a refined creosote oil for spraying trees might be stated somewhat as follows:

1. It shall remain free from crystals on standing three hours at 41° F. (5° C.) with occasional stirring.
2. It shall contain not more than 3 per cent of water.
3. It shall contain not more than 10 per cent of tar acids and 5 per cent might be even better.
4. The distillate based on water free oil shall be within the following limits:
At temperatures up to 410° F. (210° C.), not more than 1 per cent.
At temperatures up to 455° F. (235° C.), not more than 10 per cent.
At temperatures up to 671° F. (355° C.), not less than 65 per cent.
5. Tests 2, 3, and 4 shall be made in accordance with the standard methods of the American Society of Testing Materials.

Tar washes may be grouped in two classes: (1) those containing only creosote oil and emulsifier, and (2) those consisting of creosote oil, lubricating oil and emulsifier. The original tar distillate emulsions, a number of foreign brands, and some domestic makes belong to Class 1. Most American brands made previous to this winter would fall in Class 2. There have appeared on the market just lately several domestic brands that have no petroleum oil present. Most brands with which we experimented contained about 80 per cent of so-called active ingredients of which from 55 to 58 per cent was creosote oil, 2 to 9 per cent tar acids, 15 to 23 per cent lubricating oil, and from 17 to 20 per cent water and other emulsifying agents. Petroleum oil was added largely with the aim of making the tar washes more effective against certain pests. It is claimed by some manufacturers that this oil aids in making a better emulsion.

We have used five European and five American brands in our experiments during the past four years. The dilutions used in orchards varied from 2 to 12 gallons of the emulsion in 100 gallons of spray mixture to test their safeness to trees and efficiency against certain pests. We also made mixtures of tar oil emulsions and petroleum oil emulsions and sprayed them on apple trees to determine the limits as regards control of various insects and safeness to trees and buds. The results indicate that the following conclusions are warranted:

1. Tar acids decrease the insecticidal efficiency of the emulsions.
2. Creosote oil is the chief active ingredient in destroying aphid eggs, bud moth, oyster shell scale, and perhaps scurfy scale.
3. Lubricating oil is the principal agent in killing San Jose scale and the eggs of the fruit tree leaf-roller.
4. Apparently there is a limit to the extent that one oil can be substituted for the other in an emulsion without affecting the toxicity of the material toward certain pests. Since these limits have not been determined it seems best to base all dilutions on the percentage of creosote oil present for those insects affected primarily by this material and to base dilutions for insects affected by petroleum oil on the amount of lubricating oil present.
5. A total oil content of 6 per cent in the spray mixture is, generally speaking, about the maximum that is safe for apple trees under New York conditions, regardless of whether this be creosote oil alone, lubricating oil alone, or a mixture of both.
6. Different concentrations of creosote oil seem necessary for the control of various species of insects, as is also true of lubricating oil for other pests.
7. If we define the "lower limit" of concentration as the minimum percentage of oil that gave consistent commercial control in the experiments, and the "upper limit" as the concentration beyond which no increase in control was obtained, then the tentative amount of creosote oil necessary in the spray mixture for control of the several pests are for black cherry aphid and green apple aphid 1.6 to 1.8 per cent for rosy aphid 1.8 to 2.4 for oyster shell scale 3.0 to 4.5, for scurfy scale 3.6 to 4.5 per cent. For bud moth the minimum would be 3.0 per cent for a light infestation and 4.5 for a severe infestation. The limits of lubricating oil for San Jose scale would be 2.5 and 3.0 per cent, depending on the severity of the infestation, while the lower limit for leaf-roller would be 6 per cent of the same oil.

Although my talk deals specifically with the rosy aphid, I have given data regarding dilutions for other insects so that growers may have the same for reference should the necessity arise for controlling such pests.

Dilution of Commercial Emulsions

Until the present dormant season, the domestic brands available generally contained from 55 to 65 per cent tar distillates, including the tar acids, and from 15 to 23 per cent of lubricating oils. As it was not expected that drastic changes would be made in the emulsion, dilutions such as are given in Geneva Bulletins 636 and 637 were stated in terms of

emulsions containing the percentages of oils just given. Since that time a number of new brands have been placed on the market, some of which are claimed to contain 83 and even 90 per cent of creosote oil, and the manufacturers of some well-known brands have changed the formula for making their emulsions, some of which contain nearly equal amounts of the two oils. At present, therefore, we have American brands that fall into the two classes mentioned previously. Some contain only creosote oil and the emulsifier, while others have varying amounts of lubricating oil. Of course, the greater the percentage of lubricating oil present the lower the percentage of creosote oil that can be incorporated in the same emulsion. Since there are such wide variations in the amount of the two oils in the different brands, tentative dilution tables become a necessity if growers are to apply these emulsions economically and efficiently. The following table, which embraces the known brands of tar washes and a few mixtures that might appear on the market, shows the percentage of each oil present.

Table 1.—Dilutions for Tar Distillate Emulsions
(Tentative maximum amount necessary)

Per cent oil in stock emulsion		Gallons of emulsion to use in 100 gallons of spray mixture				
Creosote	Lubricating	Cherry & green aphids	Rosy aphid	Light bud moth Oyster shell scale	Scurfy scale	Severe bud moth
100*	0	1.8	2.4	3.0	3.6	4.5
90	0	2.0	2.7	3.3	4.0	5.0
83	0	2.2	2.9	3.6	4.3	5.4
80	0	2.3	3.0	3.8	4.5	5.6
70	13	2.6	3.4	4.3	5.1	6.4
65	15	2.8	3.7	4.6	5.5	6.9
60	23	3.0	4.0	5.0	6.0	7.5
50	33	3.6	4.8	6.0	7.2	9.0
40	40	4.5	6.0	7.5	9.0	11.3
Gallons of lubricating oil to add to control San Jose scale.						
100*	0	3.0	3.0	3.0	3.0	3.0
80	0	3.0	3.0	3.0	3.0	3.0
90	0	3.0	3.0	3.0	3.0	3.0
83	0	3.0	3.0	3.0	3.0	3.0
70	13	2.7	2.6	2.4	2.3	2.2
65	15	2.6	2.4	2.3	2.2	2.0
60	23	2.3	2.1	1.8	1.6	1.3
50	33	1.8	1.4	1.0	0.6	0.0
40	40	1.2	0.6	0.0	+0.6	+1.5

- * This would not be an emulsion but pure creosote oil. The figures given under the respective insects for this material will serve as a reference to the maximum amount of creosote oil to be used for the several species.
- All amounts shown below and to the right of the heavy stepped line are regarded as unsafe for apple trees because the total amount of oil exceeds 6.2 per cent.
- + The plus sign before the figures in the last row show that at these dilutions of tar distillate emulsion the spray mixture contains this much oil already in excess of the 3 gallons necessary for San Jose scale.

You will note that the lower half of the table shows the amount of lubricating oil to be added if San Jose scale is also present. The figures are based on a severe infestation. If the infestation is light and you feel confident that 2.5 gallons of lubricating oil in 100 gallons of spray mixture will control the pest, the amount of oil can be reduced one-half gallon in each instance shown in the table. From what has been said I believe you will agree with me that it is very important that every container of tar distillate emulsion should bear a label stating the percentage of tar acid, and lubricating oil in the brand. Likewise, lubricating oil emulsions should be labeled stating the percentage of oil present.

The question of mixing tar distillate emulsions and lubricating oil emulsions introduces a new, and to my mind, rather serious problem, since such mixing may lead to disastrous results, if our experiments are correctly interpreted. Two years ago I produced serious bud and twig injury on apple trees by such mixtures, even when the total amount of oil did not equal six gallons. In these tests different emulsifiers were used in the two emulsions. On the other hand, no injury resulted last season when a total of six per cent of oil was used, but in one case the two oils were emulsified and combined into a single emulsion in the factory and in the other instance the same kind of emulsifier and the same kind of petroleum oil was used in each emulsion that was mixed in the orchard. These results indicate that the selection of the proper lubricating oil emulsion for mixing with a tar wash is a very important matter. For the present, I am advising growers to use only such emulsions for mixing as are recommended by the makers of the tar distillate emulsions. I fear that promiscuous mixing may lead to serious losses.

In view of this situation, it would seem that two alternatives are open to the manufacturers: (1) To make a tar distillate emulsion with a high creosote oil content and also a lubricating oil emulsion which will be compatible with the former, stating the percentage composition of each on the container, thus allowing growers to add the desired amount of petroleum oil; or (2) to make two emulsions, the first having a high creosote oil content to be used for aphids, bud moth and other insects necessitating only creosote oil for control; the other having the proportion of creosote oil to petroleum oil in the ratio of 2.4 to 3 for use against aphids and San Jose scale, plainly indicating the composition on the label of each mixture.

Time of Application

Tar distillate emulsions should be applied in the late winter or early spring while the buds are dormant. It may be possible to make fall applications in Maryland, but in New York we have not had sufficient experience to recommend treatment during late fall or early winter. The past two winters were very mild, so our fall treated trees may not have reacted the same as they would have done after a severe winter. Evidently this winter is sufficiently severe to give us important data on a fall treatment. We have made applications in the spring when the buds were

in the gray-tip stage, and with some varieties no bud injury resulted, while other varieties sprayed from the same tank showed considerable bud injury. We believe that until more is known of varietal susceptibility to tar washes the treatments should be confined to spring applications while the buds are dormant. If possible select quiet, balmy days, when the temperatures are 45° F. or higher, and when there is reason to believe that temperatures will not drop to much below freezing in the 10 hours following the application.

Comparison of Various Sprays Tested on Rosy Aphids

(A number of charts were shown by the speaker to present the results of tests with the various spray mixtures. These are omitted because of consideration of space.)

One of the important properties of any spray material is safety to buds and twigs. Among the spray materials mentioned previously, nicotine and tobacco hold the highest place as regards safeness. If these insecticides are used in lime-sulfur 1 to 8, or sometimes even at 1 to 40, injury to the outer leaves is occasionally produced. This injury, however, is caused by the lime-sulphur and is not due to the nicotine or tobacco. If an elemental sulfur or bordeaux mixture is used as the fungicide with the nicotine in the delayed dormant application, usually no damage results. Lubricating oil, 3 to 100, when used at the dormant or green-tip stages, has proven reasonably safe. If applied at the delayed dormant stage injury may occasionally be produced. However, if San Jose scale is present, and the grower does not wish to use lime-sulphur 1-8, he can apply the bordeaux mixture, lubricating oil and nicotine spray in the delayed dormant with a reasonable degree of safety on some varieties. Unless the effect of this mixture on all the varieties in his orchard is known, it would seem advisable to use the lime-sulphur 1-8 and nicotine mixture in the delayed dormant for San Jose scale and rosy aphid.

The cresylic acid 1-200 and lubricating oil 3-100 mixture, applied at the green-tip stage, caused rather severe bud injury during one season of the four that it was used. Tar distillate emulsions, if applied as recommended previously, were generally safe if the total amount of oil did not exceed six gallons in 100 gallons of spray mixture. On the other hand, serious bud injury occurred with high concentrations even when applied while the buds were dormant. Lower concentrations damaged the buds of some varieties when applied after the buds had reached the gray-tip stage.

Another consideration of practical importance to the grower is the length of time during which the mixture can be applied and the manner in which treatment must be made. In making delayed dormant applications, regardless of the mixture used, it is necessary to spray the entire tree at one operation, because the aphids seek the sheltered sides of the buds. Usually the period during which successful spraying can be done is very

short. Unfavorable weather may prevent the thorough treating of an orchard at the proper time.

Sprays used to kill eggs, such as cresylic acid and tar washes, have an important advantage over the delayed dormant treatments in that the trees can be sprayed with the wind. The time for the green-tip application with cresylic acid, however, is rather short, at least during most years. Generally speaking, more time is usually available for the application of tar distillate emulsions than with any of the other sprays, although during some seasons mud, rain and high winds reduce this time considerably.

Another important consideration is dependability. The tar distillate emulsions have not been used over a sufficient length of time to give us much of a guide on this point. During the four years of experimenting and several years of use by growers, these preparations have seldom failed to control the rosy aphid. The only instance in our experience where high efficiency was not secured was due to excess agitation in the spray tank. This caused so much foaming that the pressure was reduced and the results on insects were rather poor. Growers who used these emulsions generally secured very efficient control.

In our experiments, cresylic acid gave variable results. Strange as it may seem, the few growers who used this mixture last season generally secured better control of the rosy aphid than they did with nicotine and lime-sulfur, which is the opposite of our experimental data.

Nicotine and lime-sulphur have given quite consistent control in our experiments except during 1930, when unfavorable weather prevented timely application, and in 1933, when rain occurred shortly after the spray was applied. I do not wish to convey the impression that the average New York apple grower obtained as consistent results as we did in our experiments. He did not. There are two reasons for failure to control the rosy aphid under New York conditions. First, large acreage in proportion to spraying equipment, and second, failure to adopt good spraying technique. Let us consider each of these causes more fully. Many of our growers could treat their entire orchard in from three to four days of steady spraying. If unfavorable weather occurs at the delayed dormant period, especially if the buds are advancing rather rapidly, they are unable to spray their orchards at the most opportune time, with the result that they either have a portion in which the rosy aphid is not thoroughly controlled or they try to hurry over the area and, because of inefficient application, the control is rather poor over the entire orchard. With all the instruction that has been given by the Spray Service, many growers have not learned to adopt a system for spraying each tree, so that, while they may use plenty of material, they do not get the best control. Again, many do not use sufficient material and therefore fail to get commercial control. I suppose that the same might be said of growers in all apple growing districts.

In considering cost of materials we have included $2\frac{1}{2}$ gallons of lime-sulphur to be made as an extra application at the delayed dormant period

in the case of the tar distillate emulsion and cresylic acid mixtures. For the control of the rosy aphid and San Jose scale the cost of materials for 100 gallons of spray mixture would be approximately as follows: Cresylic acid and lubricating oil followed by lime-sulfur, \$1.05; bordeaux mixture (4-8-100), lubricating oil and nicotine, \$1.68; tar distillate emulsion with sufficient lubricating oil, followed by lime-sulfur, \$1.68; and lime-sulfur 1-8 and nicotine, \$2.15. Of course, the cost of labor, etc., for making the extra application of lime-sulfur in the case of the cresylic acid and the oil emulsion mixtures must also be taken into account.

A Proposed Spraying Schedule for San Jose Scale and Rosy Aphids

It will be noted that each of the mixtures discussed has certain advantages and certain disadvantages. However, all are effective during certain years at least. The grower has the option of using any he prefers. Because of the usually limited time for application of each mixture and in view of cost of some of the materials, it seems that the time for treatment for the entire orchard might be lengthened considerably and the average cost kept reasonably low by adopting the following schedule:

1. Spray a portion in the dormant period with tar distillate emulsion containing sufficient lubricating oil to control San Jose scale.
2. Spray another portion at the green-tip stage, using cresylic acid and lubricating oil.
3. Spray the remainder at the delayed dormant stage either lime-sulfur 1-8 and nicotine or with bordeaux mixture, lubricating oil and nicotine.
5. Spray with lime-sulphur 1-40 at the delayed dormant period those portions that received treatments 1 and 2.

Dr. W. S. Hough of the Winchester Field Laboratory was the next speaker.

CODLING MOTH CONTROL

W. S. HOUGH,
Entomologist,

Winchester Field Laboratory,
Winchester, Virginia.

Codling moth injury in 1933 was considerably more than normal in most of the principal apple growing sections of eastern United States. Although several factors contributed to the outbreak, our first thought naturally turns to the spray program. For the past eight years in Virginia the great majority of fruit growers have followed a spray schedule which would not require washing the fruits at picking time. The cry has been, "Anything but washing. We don't want to wash our fruit." The abbreviated spray program has not been effective against late worm injury which occurred in late July and continued well into September. Prior to 1930

the increase in late worm injury did not appear important, but during the past four seasons the situation has grown steadily worse. At present the codling moth population in the majority of orchards exceeds any that I have known in my thirteen years of experience in the State. With a large population of codling moth in an orchard, the difficulties of control multiply at an astonishing rate.

While the problem of washing apples has been avoided by most growers to date, the problem of controlling the codling moth has been forced on most of us by the insect itself. In some orchards large quantities of spray are applied, but still severe worm injury follows. A close examination usually reveals one or all of the following: (1) a large amount of spray on the lower limbs and very little on the fruit in the upper third of the tree; (2) only exposed fruit is covered by spray on the exposed side; fruit partially covered by leaves or on the inner limbs shows little or no spray deposit and is never covered on all sides; (3) eight to ten days or more were required to spray the orchard. Plastering a white coat of spray on the lower limbs makes the total number of gallons applied appear sufficient, but the codling moth has very poor eyes and the appearance means nothing.

Large numbers of worms hatched and attacked the fruit from May 25 to 28, 1933. In many large orchards severe injury was inflicted at this time, in spite of the fact that the sprayers were operating in the orchard at that time. The worms entered the fruit in one part of the orchard while the sprayers were at work in another part. One thing is certain—we cannot scare the codling moth worms to death by letting them hear the hum of a spray machine in another part of the orchard. The worms can't hear and fear does not concern them. Where the worm population is large, it is difficult to understand how satisfactory control can be obtained, except by thoroughly spraying each tree every week or 10 days during the period of heavy attack. For most growers in Virginia this means continuous spraying from the time the petals drop until about the 25th of June for control of first brood worms. It also means that considerable spraying should be done from the middle of July until early August while the second brood of worms is hatching in large numbers.

Packing sheds and picking boxes are favorite wintering places for the worms. Last spring I observed thousands of moths emerging from picking boxes stored in a tight room in an orchard near Winchester. The moths could not escape and died within a few days. Ordinarily the moths emerge from the picking boxes and packing sheds and fly to the nearest trees to lay their eggs. Observations in Virginia, and also in Pennsylvania, indicate that most moths which emerge at a given point in an orchard will settle within 500 feet of the point of emergence. If dispersal of moths goes unchecked through a season, it is not difficult to understand how a large colony of wintering worms in a packing shed, in picking boxes or in a center of infestation in the orchard can start an outbreak of worm injury, which may extend 1500 feet from the original source when there are three successive broods of moths.

Spread of codling moth infestations from packing sheds may be confined to the trees nearest the shed by doubling the number of sprays on all trees within a radius of 500 feet. It is also necessary to scrape and band all trees within the same distance of the shed when the shed is in the orchard. At the close of the picking season the picking boxes should be stored in a tight room until needed the next fall.

Old trees afford many more hiding places for the full-grown worms and thus there usually results a larger wintering population of codling moth in older orchards than in younger orchards. Difficulty of control increases with the age of the orchard. Difficulty of control also increases with the concentration of orchards in a given area, because orchard centers afford a greater and more regular supply of fruit for the insect to live on. Irregular bearing of comparatively small isolated orchards greatly simplifies the problem of codling moth control. Consequently, we may find one grower who has the cleaner fruit after spraying only three times than another grower, only a few miles away but less favorably located, who sprays four or five times.

In order to avoid complications that might arise from excessive lead residues in 1933, calcium arsenate was recommended after the first cover spray in all orchards where washing equipment was not available. At the same time growers were warned that calcium arsenate was not as effective as lead arsenate. Results with calcium arsenate in 1933 simply confirmed our previous results from four years of work with this insecticide. In the laboratory where fruit was sprayed with calcium arsenate 12.7% of the worms entered the apples, compared to 7.7% for lead arsenate. In the orchard the difference in effectiveness is largely a matter of codling moth population. Where unsprayed trees had 85.5% of the fruit wormy, calcium arsenate in six sprays reduced worm injury to 18.7%, compared to 11.1% for four lead-arsenate applications and 19.1% for six manganese-arsenate sprays. Paris green ($\frac{3}{4}$ lbs.—100 gal.) in two critical June sprays failed to give control following an application of calcium arsenate in the petal fall and lead arsenate in the first cover spray. Worm injury amounted to 32.3%. In other orchards where the codling moth infestation was very light (unsprayed trees had only 8% of worm injury) there was no outstanding difference between results obtained with any of the insecticides used. In the first orchard where the codling-moth infestation was severe, the addition of one gallon of summer oil emulsion to the calcium arsenate-Bordeaux mixture combination in three sprays increased the effectiveness in control (8.1% worm injury). Oil was added on June 8 and also in the sprays applied July 11 and 25.

Calcium arsenate under Virginia conditions simply cannot be used with safety except with Bordeaux mixture. A weak Bordeaux (1-3-50 formula) is ample to provide against arsenical injury. Lime is only a fair corrective of injury from calcium arsenate. Zinc hydroxide and the zinc sulphate-lime mixture rendered the calcium arsenate safe, but both zinc compounds russeted several varieties very severely. Zinc russetting was different

from ordinary russetting on the fruit in that the apple skin felt like the unpolished surface of frosted glass. Varieties susceptible to zinc russetting were Winesap, Stayman, Delicious, Grimes and York.

Until the codling moth population is reduced, it appears that the minimum number of sprays for adequate control under Virginia conditions must be increased to six. This means two sprays in late July and possibly extending into early August. Yorks sprayed six times in 1933 (last spray ending July 31) carried at picking time a residue load of .026 gr. of arsenate and .054 gr. of lead per pound of fruit. The fruit was cleaned within the tolerance for lead as well as for arsenic by washing in hydrochloric acid (3 gal. acid-100 gal.) at ordinary temperatures. Fruit which received four applications of lead arsenate in May and June (1 gal. oil added June 8) carried a residue of .031 gr. arsenic and .065 gr. lead per pound at picking time. It was necessary to heat the acid bath (2 gal. acid per 100 gal.) in order to bring the residues within the tolerance for 1933.

Fruit which received two sprays of lead arsenate in May and then four sprays of calcium arsenate and Bordeaux mixture (June 8 and 19 and July 11 and 25), to which 1% of oil was added in three sprays (June 8, July 11 and 25), carried a residue load of .032 gr. to .059 gr. of arsenic and .006 gr. of lead per pound at picking time. Washing in hydrochloric acid (2 gal. per 100) reduced the arsenic residue within the tolerance. In some instances it was necessary to add a detergent or cleaning agent such as Vatsol 8 lbs. or Aresco $\frac{1}{2}\%$ in order to bring the fruit within the arsenic tolerance.

According to our experience this past season, it appears that fruit sprayed the last week of July with a non-lead arsenical (calcium arsenate or manganese arsenate) may have to be washed to bring the residue within the tolerance at picking time. Adherence of manganese arsenate seemed to exceed lead arsenate. Furthermore, the liberal use of lead arsenate after June 15 for control of first brood worms will almost certainly require washing the fruit at picking time to meet the lead tolerance. In other words, there is no arsenical insecticide which can be used sufficiently late in the season to control late worms and at the same time avoid with certainty washing the fruit at picking time.

Summer oil emulsion, 1 gal., and nicotine sulphate, 1 pint per 100 gallons, has given about the same degree of control as lead arsenate and does not require washing to remove objectionable residues. The oil-nicotine combination to be effective must be applied every eight or ten days during the period of heavy egg laying. Under our conditions this means two or three applications in July to early August. The oil-nicotine combination costs about 1.5c per spray gallon, or about \$3.50 for a 300-gallon tank of spray.

Reduction of codling moth injury cannot and will not come until growers employ every available means of reducing the codling moth population in the orchard. The available means of reducing the infestation are (1) scraping loose bark from all trees in the dormant season and then banding

the trunks with chemical bands between June 1 and 15; (2) reducing the packing shed menace by storing picking boxes in a tight room from the time the picking season closes until they are needed next fall; (3) disposal of culls daily during the picking season; (4) more thorough and timely spray applications in May and June, and (5) spray sufficiently late in July or into early August to control late forms. This will require washing the fruit to remove excessive spray residues. Lead arsenate still appears to be the best insecticide that growers can afford to use. It is certain, however, to require washing the fruit when used a sufficient number of times to control the codling moth.

Mr. Robert A. Simpson of Vincennes, Indiana, discussed the growers' side of the codling moth control problem.

CONTROLLING CODLING MOTH IN OUR ORCHARDS

ROBERT A. SIMPSON

Fruit Grower

Vincennes, Indiana

The topic given me is the most important and also the most difficult subject that could have been assigned. The codling moth has been on the increase in the Middle West and East in spite of the combined efforts of entomologist and grower. There is an insistent emergency call from growers for additional information and financial aid for 1934. The accumulated infestations of the past three years indicate what we may expect. *"Coming events cast their shadows."*

To be perfectly frank, I feel very humble and incompetent in coming before this audience to talk on the Control of Codling Moth. Yet we always benefit from the exchange of information and experience; from the suggestion and observations of entomologists and pathologists; research men and the commercial growers. Each has his different section and climatic conditions, but all have a common problem.

I have no "cure all" and perhaps little for you that is new. For the last 35 years we have been fighting the codling moth successfully in Indiana and Illinois, with the exception of 1914 and the past four years. For the past four years, especially in the older orchards, there has been a decided, and in many cases rapid increase in carry-over of worms. It seemed almost impossible, in spite of every effort, to prevent this decided yearly increase. Younger orchards have suffered similarly, but to a less extent. However, in these younger orchards there has been a much greater increase than most growers realize. This alarming increase has come in spite of all the latest and best information; in spite of heavier spray schedules, the best chemicals and equipment available, and the hardest fight the better growers have ever put up. Yet the East and Middle West have gone into the winter with the heaviest carry-over of worms on record.

To make matters worse, the low marketing prices and the change in

lead tolerance have caused many changes in spray schedules. This has in many cases limited the number of lead sprays. Changes to calcium arsenate have caused serious losses. In many cases where men could not buy washing machines they left off some applications which would have been put on otherwise. As a final result there were millions of dollars lost and a great increase in codling moth population during 1932 and 1933.

I feel positive that spraying alone will not control the worms this coming season where there is a heavy carry-over of codling moth from last year. Spraying will be the main defense, but this must be reinforced by more supplementary measures than most of us have followed in the past. This is especially true in sections where there is a part or a full third brood. I want to dwell particularly on these supplementary lines of additional defense and their imperative need. By starting at once and carrying on throughout the season in every way practical. I feel sure we can win the battle over the codling moth in 1934. But, as Orphan Annie says, "The goblins will get you, if you don't watch out."

The topic of spraying will not be touched, as we *must* depend on our State and governmental workers for guidance concerning spray materials, schedules, and timing.

I would suggest the following supplementary control measures as worthy of your consideration:

Point I—*Tree Removal*—In older orchards remove varieties and individual trees which have been unprofitable for the last six years. Devote the time and money these required in caring for the better trees and varieties. Remove old half-dead snags and split-down trees. These offer ideal hibernation places inaccessible to scraper and probe.

In blocks of summer varieties, cut out or topwork all scattered late maturing varieties. In many otherwise well cared for orchards, these scattered later maturing trees are missed at some time during the long spraying season. Such trees may easily become veritable incubators for worms.

Point II—*Pruning*—For control, *thorough* spraying *must* be done. For thorough, efficient and economical spraying, it is absolutely necessary that all trees be carefully and properly pruned, and trained such that spraying may be done thoroughly and economically.

Head back the trees that are too tall. Codling moth eggs will be deposited most numerous in the inside upper fourth of the tree, just where thorough spraying is most difficult.

Thin out dense portions of the tree by removing small limbs in crotches, split or broken limbs, surplus scaffolds and sub-scaffolds, and, where possible, narrow crotches and over-lapping limbs. Often these split and cracked limbs, large and small, harbor a surprising number of larvae. It *may even be* wise to sacrifice large limbs and scaffolds where they are badly split, cracked or rotted. Unbelievable numbers of larvae congregate in these splintered and rotted wounds. Where possible they should be sawed or chiseled smooth and covered with a thick coating of a tree wound dressing. Great numbers of codling moths hibernate in the punky

wood of decaying cavities. Why not make these cavities a prison by tacking a fine wire screen over the opening? This should kill 100% of the inmates. This could be repeated every year.

Point III—*Scraping and Banding Trees*—One of the most important supplementary control measures is the scraping of all loose bark and the cleaning out of narrow crotches, crevices, and pruning wounds, combined with the use of chemically treated tree bands. This is one of the most important steps in our 1934 Cleaner-Fruit Campaign.

Trees should be scraped from the ground level and as high up as the rough bark extends. (We like best a three-cornered meat block scraper and a flexible saw blade.) The looser scales of bark are not as important as the closer lying scales. The latter offer more protection to larvae. They often burrow into the center of the scale itself to spin up. Scraping *must be* thorough if it is worth doing at all.

All scrapings must be carefully collected and burned. A tarpaulin or sacking of some kind, fitted closely to the trunk, works best. Any chips left around the base of the tree must be picked up also.

Much care should be exercised in removing all bark and trash from the crotches and crevices. We have found larvae in soggy dirt and trash seemingly too wet for any insect. These places can be most easily cleaned by the use of a flexible saw blade. The teeth will help clean out and destroy larvae not actually removed.

Attention should also be paid to partially healed wounds, season cracks, holes, and any kind of punky wood. Half the worms may be missed if these small places are not examined. Flickers, sap-suckers and similar birds may get most of those hibernating under bark, but they cannot reach the worms securely spun up in cavities, narrow cracks and crotches.

Scraping and banding must be combined if *either* is to be worth the effort.

Our entomologists can supply the necessary information concerning the use of commercially prepared and home-treated bands. Suffice to say, from Indiana and Illinois experiments, such bands have caught 60% to 80% of the codling moth larvae, where the trees were properly scraped and banded. Dr. Flint finds in Illinois the moth larvae during the winter are distributed as follows: Under bands, 80%; elsewhere on tree, 13%; ground, 7%.

Point IV—*Screening Packing House*—The orchard packing house is invariably a center of infection. The bad fruit as well as the good is concentrated here, and surprising numbers of larvae crawl into snug, dry hiding places for the winter. Such an "incubator" should be tightly screened during the months of April, May and June, during which time the moths will have emerged and died.

Before screening, place inside all containers, ladders, picking equipment and tree props. Then screen.

Many think this to be impractical and too costly. Let me quote from a letter I received from a friend of mine, Mr. Troth of Mitchell, Indiana.

Mr. Troth wrote: "Our packing house is 72x72, 18 feet from eaves to

ground and 36 feet from comb to ground. Until last year we have always used tobacco cloth for screen. Last year we used a much better cloth (sheeting) known by the trade name of Brown Canton, which could be bought last year (1932) in 9-foot widths at $14\frac{1}{2}c$ per running yard. The cost where Brown Canton was used, including cloth, laths, nails and labor was \$48.00. The above \$48.00 represents the cost of screening the packing house in 1932 and no credit has been given for the use of the same cloth in 1933 and 1934. Screening a packing house in this way is not nearly as big nor expensive a job as the average grower likely thinks, and will pay *big* dividends where codling moths are not so serious, and triple dividends where they are serious."

When Mr. Troth took over his orchard, he also inherited a very heavy accumulation of moths, and has fought an up-hill battle ever since. The following is his count of moths caught in the packing shed mentioned.

Packing House Emergence Records 1929 to 1933 of Overwintering Larvae

Year	First Emerg.	Peak Day and No.	Emerg. Last	Total Counted	Est. Total	Oriental Fruit Moth
1929	 5/1	6/12 239	7/10	3,128	6,500	no record
				(1928 crop 98.5% clean.)		
1930	 5/3	6/5 801	7/7	13,047	25,000	457
				(Only 6.4% of crop in 1929.)		
1931	 5/8	6/14 2,114	7/11	32,009	90,000	98
				(Heavy crops in 1930 and 1931 and several 100 dozen used baskets carried over giving emergence.)		
1932	 5/4	6/20 2,001	7/18	31,654	75,000	784
1933	 5/7	6/9 924	7/8	16,371	40,000	244
				(Very few used baskets carried over.)		
1934	 (estimated)	3,000	.....	50,000	125,000	.....
				(1933 crop only 9.3% clean and several used baskets carried over.)		

The number of baskets carried over in the packing house, that were used for wormy fruit the previous year, affect the emergence directly.

Point V—*Destruction of Wormy Fruit*—Where indications are for a heavy infestation of second brood moths, it will prove well worth the effort if all wormy apples of the first and second broods are removed and destroyed. Of course, this must be done before the worms have left the fruit. This is a tedious and painstaking job, but the returns are in direct relation to the thoroughness. Usually one "worming" will *not* do the work. I know of one man who went over his orchard four times. He accomplished wonders.

Worming may be accomplished by the use of light bamboo poles with wire hooks at the end. Longer poles may be used from the ground and shorter ones by the men who climb into the trees. All apples must be picked up and destroyed before the worms can leave.

Dropped fruit must be picked up often throughout the season.

An even more severe measure may sometimes be advisable.

Growers have sometimes found it profitable to strip *all* fruit from blocks or varieties early in the season. Normally this would be done *only* when the fruit was so thin it would scarcely pay for spraying and harvesting. Occasionally, however, the reduction in worms will more than pay the loss of a large crop of wormy fruit.

There is a well-known grower in Southern Illinois whose Winesap block was nearly 100 per cent infested with codling moth one year. The following year the same block set a full crop. Feeling he again would be unable to control the worms, this man removed and destroyed all fruit from this block. A full crop set again the next year. With the regular spray program, he produced fruit very free of worms. This was in spite of a bad infestation throughout the surrounding locality.

Point VI—*General Orchard Sanitation*—This means a general clean-up campaign *throughout* the season. Drop fruit must not be allowed to rot under the trees. Drop and cull fruit must not be allowed to accumulate and stand for long periods around the packing house.

A careful clean-up must follow soon after harvest, and all broken containers, dead wood, or other trash must be removed from the orchard and from around the packing house and burned.

You may expect worms to be present in stray pieces of wood, pieces of baskets, boxes, hoops, sacks, old bands, cloth of all kinds, corn stalks, chips of wood, coarse weeds or pieces of rope, in soil near base of trees, on rocks, suckers and many other places.

Point VII—*Recent Developments*—Several new appliances are being tested out as additional help. This year several growers will use special oil torches designed to burn all trash under the trees quickly and completely. If practical in operation, this should be a real aid in combating both moths and scab.

Recent experimental work concerning moth activity has been made by the use of colored electric light bulbs. Davis, Marshall and Troth of Indiana have been carrying on such experiments for two years, and have found some unexpected moth activities which bait traps did not show. These traps have caught many times the moths that bait traps have. Light traps also have shown emergency peaks and activity that differed in extent from bait pails. Here are some points which might be of interest:

"Sixty per cent males to forty per cent females caught. Eight Light Traps in three and a half months caught 11,195 moths. Twenty-five Bait Traps in five and a half months caught 3,248 moths. Light Traps were operated twelve hours a day and used .85 kilowatts.

"Total number of Light Trap nights was 804. Giving a nightly average of 13.92 moths per trap per night for the period of operation. The best trap averaged 38.93 moths per trap per night for the period of operation. The poorest trap averaged 7.88 moths per trap per night for the period of operation. Highest single night's catch for all eight traps was 468 moths on August 28. Highest single night's catch for one trap was 173 moths on August 25.

"By checking the traps every 30 minutes from sunset to midnight over a period of three weeks it was found that on most nights 80% of the flight took place between 7.15 and 8.30. And 90% took place between 7.15 and 9.30. And 95% took place from 7.15 and 11. Practically no flight after midnight.

"Flight to Liquid Traps seems to come somewhat later. An extra good catch night for the Light Traps may not be an extra good catch night for the Liquid Traps; however, it usually is.

"Also by checking actual egg hatching on the check trees with the peak flights, as shown by the Electric Traps and the Bait Traps, indicated that the Electric Traps showed the true egg laying peaks more closely than the Liquid Traps."—MR. TROTH.

Conclusions

In closing let me review briefly the high points I have attempted to cover.

Spraying unquestionably comes first in moth control, but cannot be relied upon alone as giving adequate control. We are beginning to realize the supreme importance of supplementary measures. These should be taken up in the following logical order:

1. Remove trees which are likely to continue as sources of infestation, such as split-down or half-dead trees and trees of a late variety scattered through early varieties. Some are sure to be missed on at least part of a spray. Cut out blocks or varieties found unprofitable and use that expense and effort on the more profitable trees.

2. Prune dense and high trees such that they may be sprayed thoroughly and economically. Head back high trees and make openings so sprayers may walk clear in to the trunk of the trees for more thorough spraying.

3. Scrape all trees during the dormant season. Then band all trees old enough to have needed scraping. It is very important that this work be done with care and thoroughness.

4. Screen the packing house after all harvesting equipment and containers have been stored therein, if such building is in or near to the orchard.

5. Thin off wormy fruit wherever worms are a problem. Begin as the first brood becomes apparent and re-worm as often as seems necessary.

6. Keep all dropped fruit picked up at all times throughout the season. Do not wait till the worms have crawled out.

7. Follow a general clean-up program. Keep rubbish and trash of all kinds cleaned up. Especially important is a thorough clean-up of orchard, nearby buildings and surroundings as soon after harvest as possible. Do not allow drop or cull fruit to stand long about the packing house.

8. Electric light traps seem to give different and more accurate indication of time of moth activity than do bait pails.

9. Above all, keep your eyes open and one jump ahead of the worms. If they once get the jump, you will soon be fighting a losing battle.

10. In future study of activity of moths it now looks like bait traps, electric traps and emergence cages may all be necessary to determine egg-laying peaks.

If spraying is to be timed and put on effectively, it must be applied according to moth activity and not to any dates on the calendar. It is possible that with more improved electric moth traps they may become additional practical supplementary controls.

11. I am positive it will take more study and better management than in the past; but with all that, I am optimistic and have already begun my thirty-sixth campaign with my old enemy, the Codling Moth.

TUESDAY—JANUARY 2**7.00 P. M.**

President Carpenter introduced Dr. D. F. Fisher of the United States Department of Agriculture, who discussed fruit cleaning methods.

CLEANING HEAVILY SPRAYED FRUIT

D. F. FISHER, Principal Horticulturist,
Division of Fruit and Vegetable Crops and Diseases
U. S. Department of Agriculture,
Washington, D. C.

In undertaking a discussion of this subject it is necessary to go to the Pacific Northwest for much of our material because that is where the problem is most acute; where the greatest progress has been made in fruit cleaning and where the greatest amount of experimental data have been accumulated.

With the recent announcement of regulatory tolerances of .019 gr./lb. of lead, .01 gr./lb. of arsenic and .01 gr./lb. of fluorine for 1934, which are, for all practical purposes, the same as those enforced in 1933, the apple industry is assured not only of the appreciative attitude of the Department of Agriculture toward the difficulties attendant on the spray residue problem in commercial operations, but of the opportunity to continue or resume use of effective methods of codling moth control which might be precluded by more stringent regulations. The strain of the situation facing the grower in the 1934 season is therefore measurably relieved as compared with a few weeks ago before it was definitely known that a tolerance for lead of .014 gr./lb. would not be enforced for the coming crop, as forecast in the announcement of the regulations for the 1933 crop.

In approaching the subject of the cleaning of heavily sprayed fruit, two general questions must be considered: (1) To what extent is it possible to meet the tolerances for lead, arsenic and fluorine? and (2) are the methods required to do this practical or economically feasible? We may dismiss the subject of arsenical residue rather briefly and promptly at the outset by stating that any method which will satisfactorily reduce lead and fluorine may be depended upon to similarly reduce arsenical residue. The critical spray residue problem, therefore, now appears to be concerned primarily with lead and fluorine and will be so considered in this paper.

During the past season, as indeed in every season since spray residue first became a problem in 1926, the Department of Agriculture has con-

ducted extensive studies in the Pacific Northwest on methods of removal, effects of cleaning treatment on the keeping quality of the fruit, and related subjects. In the major apple growing districts of that region the codling moth problem is more serious than it is here and, in consequence, heavier and more complicated spray schedules are generally followed. The experiences in removing spray residues from such fruit should certainly be useful in answering the two general questions which we are considering. We also have considerable information on the removal of spray residue from fruit grown in Maryland and neighboring states—information which may be directly applicable to the problem facing many of the growers in this audience.

Before taking up the more or less technical phases of this discussion, one other point should be brought out. Spray residue is not an independent problem, although at harvest time it may be so important and serious as to appear to be so. From the grower's standpoint, it is rather a phase of the codling moth problem, and its importance or seriousness is entirely dependent upon just what practices he has followed in codling moth control. If, in order to make it easy to remove spray residue, or even to avoid the necessity of removing any spray residue, the grower has followed an ineffective codling moth control program, he unquestionably ends the season just as disastrously as he would if he sprayed in a way which would control the worms and then found that he could not market his crop on account of excessive spray residue. In other words, it doesn't matter much to a grower if he is able to remove 99 per cent of the spray residue or whatever amount is necessary to meet the regulations if, in order to do that, he has sprayed in such a way that he had a 50 per cent crop loss—or even a 25 per cent crop loss—on account of wormy apples. Yet, this is just what many growers did in 1933, and every year since spray residue regulations have been enforced. And the tragic part of the story is that in many cases the result has been that, despite the effort to avoid spray residue removal treatment, growers have frequently found that they not only did not control the worms but had just a little too much residue at harvest and had to do the very thing they had sought to avoid by adoption of an inadequate control program. So, at this point, we should stress in all seriousness that the grower's first concern must be to control the worms if he expects to stay in business. Practical experience or the advice of entomologists should be the guide in this connection rather than fear of the impossibility of removing excessive spray residue.

However, a confusion of advice on methods of codling moth control is bound to produce a confusion of results in the removal of spray residue, as we discovered in our work this year. We have not determined just how many different combinations of spray residue had to be contended with at harvest time this fall. In this part of the country and throughout the East, the spray practices have been quite uniform within general regions. In the Pacific Northwest, however, this has not been true and there have been almost as many spray residue problems as there are growers. Consider, if you will, the conditions at harvest time when attempts were made

to condition the crop. For part of it, the codling moth control recommendations of the Bureau of Entomology had been followed, another part had been sprayed according to recommendations of any one of the several state experiment stations in that area. Still other growers were forced to follow the schedule laid down by the Region Agricultural Credit Corporation or the Intermediate Credit Bank because their crops were being financed by these agencies. Then, there were others who followed recommendations of their marketing organizations, most of which employ experts to advise their growers. Too, nearly every insecticide manufacturer had an expert in the field to advise the growers how to spray and particularly what to spray with. And, finally, there were plenty of growers who made up their own spray schedules and combinations of materials. This frenzied attack on the codling moth, of course, reflects the critical nature of the fight and the fact that those growers realize that they must control the worms or go out of business.

But certainly not all of those hundreds of spray treatments could be satisfactory both from the standpoint of worm control and spray residue. That, however, was not considered when they were applied—and they did not begin to worry about spray residue removal until harvest. Then the difficulties encountered and the fruit that was injured in attempts to remove excessive residue brought home very forcibly the point I am attempting to make here—namely, that the spray practices should be unified as much as possible and should take into consideration the possible complications that may be met in connection with spray residue removal.

By examining the results of a few typical washing treatments applied to apples which received some of the more representative spraying treatments in the Pacific Northwest, we will be enabled to answer the first question propounded in the beginning of this discussion: "To what extent is it possible to meet the tolerances for lead, arsenic and fluorine?" If it is possible to reduce the spray residue sufficiently to meet the regulations in the case of apples subjected to the much heavier and more complicated spray schedules of the Pacific Northwest, it may reasonably be expected that similar methods could be employed successfully, if necessary, in those sections of the country where the residue removal problem does not present the same degree of difficulty. These results are most conveniently presented in graphic form and I think will be most easily understood in that form.

In view of the fact that all of our experimental data have not yet been compiled and that no experiments whatever have been completed on storage lots of this same fruit, and which we know from previous experience will be far more difficult to cleanse, any conclusions drawn at this time must be tentative and subject to modification in the light of complete information. However, it may be desirable to attempt to summarize as concisely as possible the results of this work as they appear now.

(1) Five of the most common types of washing equipment were used and with each one a comparison was made of the solutions which preliminary experiments had demonstrated to be the most promising. The con-

centration and temperature of the washing solution were the maximum which was considered safe for the variety.

(2) The effectiveness of the various washing treatments was dependent not only upon the particular machine or solution employed but upon the quantity of excessive residue present and the materials used with the insecticide as a spreader or binder or applied thereafter as substitutes for lead arsenate and which tended to fix the residues so that they were difficult to remove. For example, when nothing but lead arsenate was used throughout the season, the regulatory tolerance of .02 grain of lead per pound of fruit was not satisfactorily met by any washing treatment when the original amount of lead residue was as much as .511 gr./lb., but was successfully accomplished when the load was only .173 gr./lb. to begin with. Likewise, in the case of a spray schedule calling for lead arsenate in the first five cover sprays followed by two applications of nicotine sulphate and oil in the last two cover sprays, the excessive lead residue was reduced only with great difficulty when the original lead load was as much as .327 gr./lb., but no particular trouble was experienced when only .075 gr./lb. had to be contended with.

(3) When a spray schedule was used calling for lead arsenate in the first part of the season and cryolite during the latter part, no particular difficulty was found in removing either the lead or fluorine residues, particularly when only two applications of the cryolite and oil were used.

(4) When cryolite and oil were used throughout the season the excessive fluorine residue was not satisfactorily removed with any cleaning treatment.

(5) Arsenical residues from manganese arsenate or calcium arsenate sprays were satisfactorily reduced by all washing treatments except those employing sodium silicate, but the worm control was not satisfactory.

(6) In general, the brush machine proved to be more effective than any of the other types of washing equipment.

(7) While in our work in the Pacific Northwest this year the highest average efficiency in the removal of both lead and fluorine residues was obtained with the use of $1\frac{1}{2}$ per cent hydrochloric acid plus 2 per cent salt, plus 1 per cent light mineral oil, at a temperature of 100° F., the multiplicity of possible spray schedules employing so many different combinations of materials precludes the general recommendation of any particular washing treatment. Instead, it is necessary to stress the fact that the selection of a washing process should be varied, depending upon the particular difficulties presented from lot to lot and as influenced by the quantity and kind of residue on the fruit. No rule of thumb method can be advanced to cover all cases and suggestions should be sought from specialists whenever new or unusual spray residue combinations must be contended with.

No doubt most Eastern and Middle Western apple growers look with something akin to consternation on the necessity of heating the washing solution, the use of complicated mixtures of cleansing agents, and the

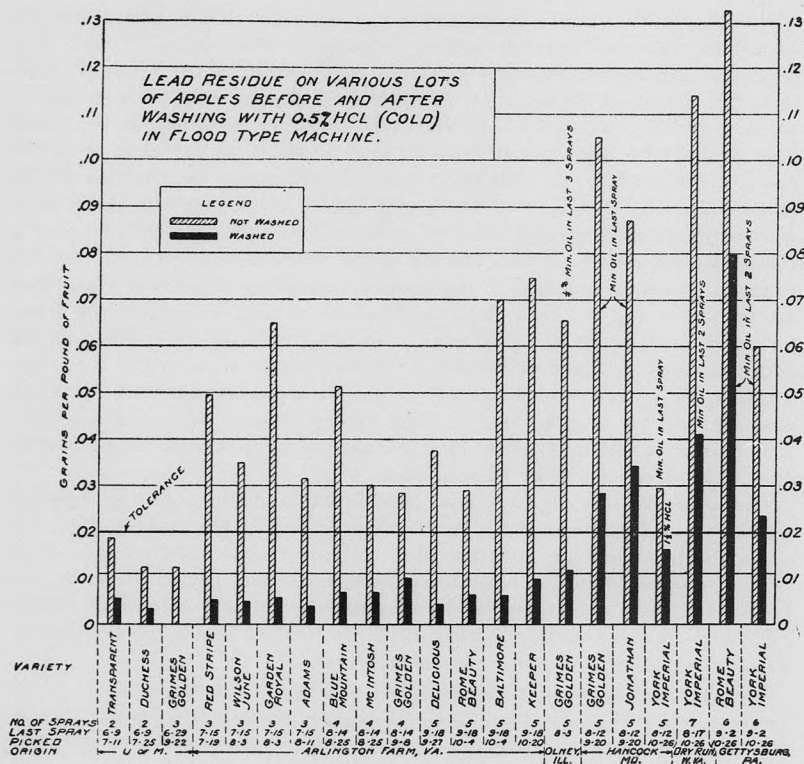
expensive machinery commonly employed in the Pacific Northwest, and I can almost hear comments to the effect that "if we have to do all that we might as well quit the apple business." That's just what the apple growers said in the Pacific Northwest in 1926 and 1927 when they first went up against the necessity of washing their fruit. Unquestionably, it is an added burden that is hard to bear when the industry is in such dire economic straits as it has been experiencing the last few years. But the Pacific Northwest is still in the apple business and finds it possible to meet all spray residue requirements and ship 30,000 to 40,000 cars of apples across the continent to compete with you in your own markets.

At this point I should like to present some of our results with Eastern grown fruit to demonstrate that your problem is far simpler than that of the Pacific Northwest growers—and to show what you can expect to accomplish by simple and relatively inexpensive methods. Most of this work on Eastern apples was conducted cooperatively by Dr. M. H. Haller of our staff and Dr. J. H. Beaumont of the University of Maryland, who have also arranged a display and demonstration in the exhibit room.

Throughout large areas in the East, calcium arsenate was used in place of lead arsenate during the past season. Where this spray was used, the removal of excessive arsenical residue was ordinarily accomplished without difficulty by use of wiping machines, or by washing in hydrochloric acid as weak as $\frac{1}{2}$ per cent, in a paddle machine. However, the generally unsatisfactory codling moth control secured from use of this spray, together with the more or less serious injury which it produced on the trees in some cases, will not encourage many growers to continue its use.

Where lead arsenate at the rate of 2 pounds per 100 gallons was used in as many as five cover sprays at Arlington Farm, Va., the last one being applied September 18, only 10 days before picking, we found a load of .038 gr./lb. of lead residue on Delicious, while Romes sprayed at the same time and picked one week later carried .029 gr./lb. When the Delicious were washed in $\frac{1}{2}$ per cent hydrochloric acid in a flood type machine the lead residue was reduced to .004 gr./lb. With the Romes the result from the same washing treatment was .007 gr./lb. At Arlington Farm three varieties receiving four cover sprays, the last on August 15, and picked less than a month later, were readily cleaned to .01 gr./lb., or less of lead with $\frac{1}{2}$ per cent hydrochloric acid. Four varieties receiving five cover sprays, the last as late as September 15, and picked less than a month later were also cleaned to within .01 grain of lead per pound with $\frac{1}{2}$ per cent hydrochloric acid.

With Jonathans from Hancock, Md., which were sprayed with lead arsenate in the calyx and the first, second and fourth cover sprays, calcium arsenate in the third cover and lead arsenate and mineral oil in the fifth cover on August 12, the lead residue was .087 gr./lb. at the time of harvest. In the flood type machine, using $\frac{1}{2}$ per cent hydrochloric acid, the lead residue was reduced to only .034. Heating the solution to 105° F. reduced the lead residue to .019 gr./lb. By increasing the concentration of hydro-



machine the lead residue was reduced to .012 gr./lb. When the washing solution was heated to 105° F. the lead residue was reduced to .009 gr./lb. When the concentration of unheated hydrochloric acid was increased to 1.0 per cent the lead residue was reduced to .01 gr./lb. When calcium arsenate was substituted for the lead arsenate in the last three sprays the lead residue at harvest was .014 gr./lb. and the arsenical residue was .019 gr./lb.; washed in unheated ½ per cent hydrochloric acid in a flood type machine, these residues were reduced to .007 and .004 gr./lb., respectively. When nicotine was substituted for the lead arsenate in the last three cover sprays and the fruit was washed in unheated ½ per cent hydrochloric acid in a flood type machine, the lead residue was reduced to .006 gr./lb. and the arsenate residue to .003 gr./lb. When Dutox or Cryolite were used in place of lead arsenate in the last three cover sprays there were fluorine residues of .005 and .007 gr./lb. respectively.

From our results in general it appears that under climatic conditions which prevailed in the Shenandoah-Cumberland region in 1933 a spray

schedule involving the use of four cover sprays of lead arsenate, the last one being applied as late as August 15, would not seriously complicate the matter of spray residue and that $\frac{1}{2}$ per cent hydrochloric acid used in a flood type washer or a paddle machine could be depended upon to satisfactorily condition the fruit for market if picking is delayed a month or more after the last spray. Where later spraying is necessary and lead arsenate is used, the strength of the acid probably would have to be increased, but heating the solution would not ordinarily be required unless oil is used with the lead arsenate. In place of heating the solution, a wetting agent or detergent may be added to the hydrochloric acid, but a paddle machine must be used instead of the type which pumps the solution over the fruit on account of the excessive foaming produced when such materials are added. Defoaming agents may be used to control the foam, but have not proved to be altogether satisfactory and, of course, are an added expense. The use of heat or detergents is also called for when considerable natural wax on the fruit has to be contended with, as in the case of overripe fruit or that washed after storage. Whenever possible, it is best to wash the fruit at time of harvest to avoid the complications due to the development of natural wax.

The evidence thus far presented is believed to answer the first question we have been considering, "To what extent is it possible to meet the tolerances for lead, arsenic and fluorine?" While it is undoubtedly possible to spray apples in such a way that excessive residues cannot be effectively removed, it does not appear to be necessary to do this to control codling moth and effective codling moth sprays can be used which offer no unsurmountable difficulty in spray residue removal.

We may then pass to a consideration of our second question, "Are the methods required to do this practical or economically feasible?" Let us take up first the costs involved in the complicated program used in the Pacific Northwest this year. We often hear it stated that the cost of washing averages about five cents per bushel. I have here the carefully kept 1933 cost record of a grower at Wenatchee, Wash., who handled his crop of about 5,600 boxes in his own packing house.

Hydrochloric acid, three carboys.....	\$18.00
"Vatsol"—wetting agent	21.00
Electric power	1.00
Heat	2.00
Labor	30.00
Depreciation	20.00
Total	\$92.00

Or about 1.6 cents per box.

These costs are surprisingly low, but may be duplicated by good management anywhere. The machine used was a home-made paddle type washer, built at an original cost of about \$200. Plans and specifications for a similar machine may be obtained from the United States Department of Agriculture. For heat, this grower used a lot of old automobile

tires in an old oil drum converted at small expense to use as a heater by installing coils and cutting a hole in one end for a door, laying it on its side on a fireproof stand and taking a smoke stack out of the upper side. He used 1 per cent hydrochloric acid and 1 per cent wetting agent as the washing solution throughout the season.

During the present season costs of washing have been materially increased, due to the necessity of using new methods, and often new machinery also, for the removal of lead residue. The principal items responsible for the increased costs were analysis, new machinery and supervision. A detailed comparison of the costs washing in 1932 and 1933 at a representative central packing plant located at Cashmere, Wash., is shown in the following tabulation:

**Comparison of the Cost of Washing Apples in 1932 and 1933,
at Cashmere, Washington.**

	1932	1933	Per cent increase
Total number boxes	145,730	134,474	.....
Number days run	51	38	.....
Cost per box:			
Analysis	.001912	.004882	155
Washing: Materials	.008589	.011132	30
Machinery	.006649	.013918	110
Heat	.002310	.002543	10
Supervision	.001568	.003328	112
Total cost per box.....	.021028	.035803	70

The cost of analytical work will doubtless be a surprise to many Eastern growers, but every operator must have a sufficient number of samples to guide him in his efforts. These, of course, are in addition to the regulatory samples taken by the inspectors. It is reported that in some Eastern producing sections the cost of lead analyses has been as low as 75 cents per sample, but in the Pacific Northwest this year the cost of analyses varied from \$1.75 to \$2.00 each. In passing, I might add here that in the Wenatchee district alone about 24,000 chemical analyses will have been made, which it is estimated will add about one-half cent per box to the cost of spray residue removal work, considering the total crop of that district. Where the spray program is less varied and complicated and such frequent sampling is not required, the cost would be proportionately reduced. It is seen, therefore, that even where the greatest trouble from spray residue is experienced the actual cost per bushel is generally under five cents and may be as low as about three cents.

Before leaving the subject of costs, however, we must in all fairness consider the matter of possible losses from damage due to washing processes. When a grower loses \$3,000 worth of apples in a single day's operation because he let the washing solution get too hot, as happened to one man whom I know, he adds to the expense of washing at a very rapid

rate. Too, when mistakes are made and tender varieties of apples are washed with chemicals that react with the spray residue to form toxic materials, injury often follows—usually localized in the calyx region—and opens the way for fungus rots. These injuries have been particularly common this year and have been traced not only to the use of new chemicals but to *inadequate rinsing*, which, from the first, has accounted for most of the damage of this type. In many cases these injuries did not show up at the time of packing, but a lot of them developed in transit or storage and resulted in many rejections of consignments and heavy losses to the shippers. Such losses must, of course, be averaged in on the costs of spray residue removal. But such losses are unnecessary and, with present knowledge of the various washing procedures and their effects, it ought to be possible to avoid these costly results. Despite all these hazards and costs, however, I think it has been shown that spray residue removal is economically feasible if an added cost of not over five cents per bushel can be borne, and, indeed, for most Eastern districts the cost should not be over two cents per bushel.

At the same time we must recognize some of the very practical difficulties in the washing of apples in many Eastern growing districts. Many growers have no water supply to enable them to wash their crop, even if they desired to do so. This is a serious problem, but is not unsurmountable. To meet it doubtless would require a change in harvesting and packing methods and the operation of central packing plants, involving very radical changes which might not be welcomed in many sections. However, if it came to a choice between adopting them or of going out of the apple business I suspect the result would be the same as it has been in the Pacific Northwest.

Beyond this, it should perhaps be said that the increasing pressure for a product that cannot be challenged anywhere on the score of any possible hazard to public health is rapidly forcing spray residue removal as a matter of economic necessity rather than of mere economic feasibility.

The apple grower cannot afford to countenance a "whispering campaign" or any suspicion about the healthfulness of his crop in the great consuming markets. Regardless of the personal opinion he may hold concerning the possible dangers in spray residues, the only sound basis upon which he can proceed and permanently protect his market is to put out a product which cannot be challenged.

Right now the apple grower is faced with the absolute necessity of meeting the spray residue regulations on all interstate shipments and for local marketing as well, in many parts of the country. Controversy and difference of opinion over the toxicological dangers involved probably will continue for a long time to come. Regardless of the outcome, the apple grower continues to face the same practical necessity of removing excessive residues of arsenic, lead and fluorine on the next crop, and it is not too early even now, at the very beginning of the year 1934, to start planning

for the season's work. In fact, I would like to suggest some New Year's resolutions for every apple grower:

1. To adopt and follow proved methods of codling moth control throughout the year.

2. Not to "kid yourself" on spray residue at harvest time because it is your fruit that you will be jeopardizing. When you have analyses made, pick the worst samples you can find because that's what the inspectors will do. Remember, too, that varieties differ in regard to the retention of spray residue and so do not attempt to judge from an analysis of Romes, for example, what conditions may be on your Yorks or Winesaps. Have enough analyses made so that you will know what you are up against and what you are doing as you go along.

3. In washing fruit to remember that it is *alive* and that you are subjecting it to powerful chemicals. Remember that chemical action is influenced by the *length of treatment*, the *concentrations used* and the *temperature of the solution*. Washing apples is not just the same as washing the baby, but there is a general analogy. Therefore, it would be well, perhaps, to keep the baby in mind as you proceed so that you won't get the washing solution too strong or too hot, or prolong the operation too long and, above all, that you will rinse the apples just as thoroughly as you would go after the baby in case you inadvertently spilled some hydrochloric acid on his tender skin.

4. At all times to remember that the skin of the apple is its chief protection against fungus rots which are likely to destroy it before it can be marketed. Many of the complaints about alleged injurious results of washing processes are due not to the washing solutions but to bruising and breaking the skin of the fruit in handling the apples through the washing process. The fruit should be carefully handled to prevent stem punctures, bruising and other injuries which would favor the development of storage rots. In many Eastern districts, there is a tendency to crowd the machines to get capacity output, and excessive bruising and puncturing almost invariably results. I was in a packing house this fall where a machine with a rated capacity of 600 bushels per day was being choked with over 2,000 bushels per day. Under such conditions the job of cleaning is bound to be indifferent and the hazard to the keeping quality of the fruit is certainly increased.

5. And, finally, to prepare in ample time ahead of the harvest season to remove excessive spray residue. If this requires buying or building a washing machine do not leave it until the apples are ready to pick, but get the equipment installed and become familiar with its operation and the principles of fruit washing before the harvest rush.

Mr. Robert A. Simpson followed Dr. Fisher, discussing the problems of the grower in the washing of fruit.

GROWERS' PROBLEMS IN REMOVING SPRAY RESIDUE

R. A. SIMPSON

Fruit Grower

Vincennes, Indiana

Serious consideration of the spray residue problem has grown to be a vital factor in commercial fruit growing. It looks as though the Government is becoming more rigid in enforcement and that the removal of excess arsenical and lead residue will be a requisite in the years to come.

There remains only three things for the grower to decide between:

1. He can follow a mild spray program and take a chance with the dreaded codling moth in order to have the residue under the United States tolerance.

2. He can use the full schedule as recommended by the State and Government entomologists, with control his main thought, keeping in mind also the fact that he will undoubtedly have to wash his fruit at harvest time.

3. He can use some of the more expensive combinations such as nicotine and oil in order to evade any residue worry. But as we face the situation today, with the codling moth on a decided increase in many sections of the country, many of the growers will be compelled to follow a lead and oil program as most of our entomologists agree that this is our most efficient codling moth weapon.

With the tolerance for 1934 standing at .019 for lead and .01 for arsenic, I feel that but little trouble will be experienced where we have an efficient washing machine and exercise reasonable care in its operation.

Probably the first thought that comes to the growers mind is the expense. Of course, an up-to-date washing machine seems to most of us to be very expensive, and it is. But, when we run the great risk of having our fruit condemned after it has been graded and packed, I feel sure that the initial cost of the washing apparatus is of minor importance.

At the present time there seem to be three prevalent types of washers. There are the flotation type, the flood type, and the under-brush flood type. Under most conditions the under-brush flood type is the most satisfactory and efficient. The flood type follows next and the flotation seems to come last in order of efficiency and desirability. In the case of the last type there is much more danger of injury to the fruit. In several cases serious injury has been experienced when the flotation system is used.

Personally, we have found that a combination of the flood type and a pre-dip tank has worked very satisfactory with us even where the residue analysis is great. We constructed a large pre-dip tank sixteen feet long—directly in front of our Bean flood washer. (This machine has just completed its third year service.) In this tank we used a solution of Vatsol consisting of six pounds Vatsol to the 100 gallons of water.

A man was placed at the tank with a large paddle to keep the fruit floated up to the washer at a uniform rate. The fruit was allowed to remain in this tank about two and one-half minutes before passing through the acid bath. If we had had a good defoaming agent we could have eliminated this extra tank by placing the Vatsol with the acid in the washer. We found that by this method our fruit fell well within the tolerance. I understand the Grasselli and DuPont companies have a very good defoaming agent now.

Of course, when we install a washer we encounter many more factors than one might expect. It often necessitates reorganization of the packing shed in order to give room for the equipment, as it sometimes requires twenty to thirty-five feet additional floor space depending on the type used. This sometimes means building an extension to the packing shed.

Washing equipment requires an adequate supply of water at all times as the tanks must be kept full due to the constant loss of water and acid carried out by the apples, and also due to the fact that the rinse water must be replaced frequently in order to be efficient. Kadow of Illinois states that the accumulation of acid in the rinse can be easily neutralized by the addition of one and one-half pounds lime per 100 gallons of rinse. In our washer we added sufficient acid and water every noon to bring it up to the recommended strength and, of course, at night we drained the whole system and rinsed out with clean water.

For small orchards where the grower cannot afford a washing machine, a very satisfactory home-made outfit can be built to do good work. The Government is in position to furnish plans and specifications for same.

Another problem a grower must face is the heating of the acid bath. In our case we found that where we used a Vatsol as a pre-dip no heating of the acid bath was required in order to reduce the residue below the tolerance. Dr. Ruth of Illinois Station stated at their meeting this winter, that an acid bath of 110° F. would remove five times as much lead and arsenic as the same bath at 65° F. and that for every 18° raise in temperature the chemical reaction is increased 200 per cent. As I understand, the maximum temperature we can use in a washer is 110° F. and above that temperature we can expect injury. The Farm Mechanics Department at Illinois is working on three different types of heaters for washers in order to find the cheapest and most practical for the commercial grower. They are experimenting with electric heaters, steam heaters, and hot water heaters.

In several sections of the country the residue problem has been given comparatively little thought up until this year. This year, however, due to the necessity of applying additional codling moth sprays and the application of oil-lead sprays through the summer, it has become of vital importance to a much larger percentage of growers. As I see it, *the tolerance has been lowered to the very minimum we can stand.* If it is reduced any more a very critical condition will undoubtedly develop

throughout the orchard districts unless a new spray or control methods are discovered which will prove as effective or more effective than the oil-lead program.

Sudden changes of spray schedules and substitutions of spray chemicals without having first given them careful laboratory and field tests will prove both dangerous and economically unsound. Many growers suffered a great loss last year. In some cases a total loss where calcium arsenate was substituted for arsenate of lead. This past year's crop is not the only loss we can expect but the building up of a very large carry-over of the codling moth population will likely be the cause of an even greater loss this coming season.

Some provision should be made for inspection before harvest is begun and again as the fruit is being packed. Otherwise we are sending out our fruit, subject to holdup, and the inspection of any food or government inspector. We send it out without the least assurance it will pass the United States inspection or the inspection of a competent or incompetent city food inspection. Without some provision of this kind, in each State, we are taking big chances and doing business in an unbusiness-like way.

WEDNESDAY—JANUARY 3

10.00 A. M.

Dr. H. H. Whetzel of Ithaca, New York was introduced by President Carpenter.

THE STORY OF APPLE SCAB

(Summarized from a talk given by Professor Whetzel before Maryland State Horticultural Society.)

By J. H. BEAUMONT

Apple scab or the "fungus" is the most serious disease of the apple in the eastern United States. The fungus affects both the leaves and fruit and is made apparent by the familiar irregular dark brown spots which mar the fruit and destroy the leaves.

The fungus passes the winter in the fallen leaves on the ground. It very rarely affects the growing shoots or passes the winter in twigs or in cankers on the limbs. When a leaf with a scab spot falls to the ground in the fall, the mycelium or "root" of the fungus penetrates the entire leaf. During the fall and winter the scab fungus develops small black perithecia, which are cup or jug-shaped structures that protrude through the epidermis of the leaf like little black pimples. It is in these jug-shaped structures that the spores or "seeds" of the fungus are formed during the winter and early spring. The spores are very small, two-celled structures and eight of them are formed in a club-shaped sac. There may be as many as 85 to 100 or even more of these sacs in a single perithecium, each containing eight spores.

As the spores in the center of the perithecia mature there is a change from storage starch to sugar which enables them to absorb water rapidly. During a rain therefore the mature spores absorb water, swell and develop a pressure which blows off the top of the sac in which they are formed and discharges them about one-eighth inch into the air above the leaf. The immature spores then occupy the space of those shot out and they in turn develop and are ready to be shot out at the time of the next rain.

A rain is required to thoroughly wet and cause a discharge of spores. A heavy dew or fog is not wet enough. In springs with frequent rains, relatively small numbers would be shot out each time. When infrequent rains occur and large numbers of spores mature at a time, there are tremendous numbers discharged into the air around the trees. A small

number of spores in this connection would be a few millions while large numbers would mean hundreds of billions.

It does not follow that every rain and every discharge of spores will mean that infection of the young leaves and fruits will occur. The spores are readily carried to all parts of the tree by the currents of air and must fall on a young leaf or the green parts of the young fruit. But—the spore must germinate and gain entrance to the leaf or fruit. It must fall in a drop of water and it must remain wet for a period of four or more hours, depending upon the temperature.

The spore germinates by sending out a small tube called a germ tube which grows in the drop of water over the surface of the leaf until an opening, as for example a lenticel, is found through which the tube enters the leaf. This will require about four hours at a temperature of about 60° F. If the temperature is low the spore and germ tube must remain wet for longer than four hours. For example, at 40° F. it takes about eight hours for the spore to germinate and infect the leaf. At 70° F. or 80° F. the time required would be shorter. If, therefore, a short rain followed by a drying wind occurred, there might be a heavy discharge of spores but no infection would occur because the spores would not remain wet over a long enough period. However, if a two- or three-hour rain occurred and, in addition, the foliage remained wet for several hours, and if the temperature were relatively high a large number of infections would undoubtedly occur.

The spores mature over a period of about a month, in the spring of the year, usually from the time when the buds are beginning to break, to petal fall. After petal fall, all the spores formed in the dead leaves on the ground will have been shot out and there is no further danger from scab infection from this source.

If all primary infections caused by these spores were avoided during this period with proper and timely spraying, the orchardist would have a clean crop of fruit at harvest so far as scab is concerned. If, however, primary infections do occur, the orchardist will have a scab problem at harvest no matter how much he sprays. Scab cannot be controlled if the new leaves become infected.

When primary infections occur the fungus enters the new leaf and fruit, and grows beneath the skin so that it cannot be reached by spray materials. When the germ tube enters the epidermis of the leaves it branches out in all directions beneath the cuticle and in about fourteen days the olive green spot, typical of the early stages of infection by the fungus, is apparent. A different type or summer spore is formed in this spot. These are very small, single-celled spores. Each is borne on the end of a short upright branch of the fungus. The spore is glued to the end of the branch. During a rain the glue dissolves and the spore is washed or blown to other leaves or to the fruits on the tree. These spores are formed continually through the summer. Consequently new infections may occur following or during rains throughout the entire growing season,

and it probably would not be possible or practical to attempt to completely control the spread. As in the case of the first type of spores, a period of several hours of wet weather is necessary for germination of the spores and reinfection. Consequently, if large numbers of primary infections have occurred in the spring it will be impossible to stop the spread of the disease, and the grower will have scabby fruit at harvest.

The most important consideration in the control of apple scab is, therefore, the prevention of primary infections caused by the two-celled spores formed in the early spring in the fallen leaves on the ground, and carried to the new leaves and small fruits during rains.

The disease may be controlled only by spraying or dusting with a fungicide which will kill the delicate germ tube of the germinating spore. Copper in the form of Bordeaux mixture will do it, but is not recommended because of the russetting of the fruit caused by the absorption of copper by the small hairs on the surface of the fruit at this period. Sulfurs are the best. The usual forms of dust and spray sulfurs (dry-mix, colloidal and lime sulfur) will control apple scab. The chief prerequisite is that the sulfur be very finely divided. No sulfur should be used unless a very high percentage will pass through a three-hundred mesh sieve. The effectiveness of the sulfur increases directly in proportion to its fineness. Lime sulfur, although a liquid when used, undergoes a change on the tree so that very finely divided free sulfur sticks to the leaves. From this standpoint any other sulfur as finely divided would be as effective.

At Cornell University, investigators have found that lime sulfur affects the apple leaf in such a way that 40 to 60 per cent of its efficiency in manufacturing sugar is lost. Sugar, which is the principal substance manufactured by leaves, is used in the growth of the tree and in the formation of next year's fruit buds. Professor Whetzel considered this a serious drawback for the continued use of lime sulfur, especially since other sulfurs, if finely divided, and if thoroughly applied at the proper time, are as effective in controlling scab and apparently do not affect the functioning of the leaf.

Professor Whetzel emphasized that sprays or dusts must be applied *immediately before* rains. The new growth which appeared after the last spray must have a protective coating of finely divided sulfur in order to kill the germ tubes of the fungus when the spores germinate. Infections will not be prevented if the new growth occurring following the previous spray is not protected by a fungicide.

The grower should become a weather prophet so he can judge when a rain is likely to occur. He must be prepared and equipped to thoroughly and completely cover his orchard within one or two days preceding the rain. He should expect to apply one or two or even more sulfur sprays between the delayed dormant and the petal fall depending on the weather if he expects to control scab. Susceptible varieties should be

sprayed immediately before the rains. While some sulfur will undoubtedly be washed off, enough will remain to kill the germinating spores. It will do no good to spray after a rain because the fungus will have entered the leaf before the spray is applied.

It is not profitable or even possible to control apple scab by practicing sanitary measures such as plowing under the dead leaves or cleaning up the orchard generally. In spite of the most thorough and best and most expensive practices used in cleaning up an orchard, enough sources of infection are inevitably left to cause a thorough infestation. Therefore as thorough, as careful and as much spraying will be necessary anyway.

Mr. Harry W. Miller, Paw Paw, West Virginia, read and discussed the following paper:

HOW WE PRODUCED A CLEAN CROP IN 1933

HARRY W. MILLER

Fruit Grower

Paw Paw, W. Va.

The subject assigned to me is a general one and is applicable to every producer who made a clean crop this year. The Government report in September showed the last year to be the worst growing season, over a large part of the United States, in the last 20 years and in some sections the worst in 50 years.

Therefore the growers who produced a clean crop this year were either favored by Providence or met the peculiar conditions of this season in such a way as to win out, with nature's help, over the pests and other bad conditions.

As the production of a good apple crop is not the work of a single year, we must do like the old saying, "To make an honest man begin with his grandfather"; take a look at the soil, tree, spraying and other management in previous years. In our case, the orchards which made a clean crop the past season have had about 15 cover crops in the past, and we have in a large measure followed the Pennsylvania 25-year experiment, in that we have in the last five or six years cultivated our orchards part of the time and part of the time we have left them in a clover or other legume sod. Twenty-five years ago, our peach and apple growers used the "dust mulch" system and would boast that you could not see a weed on an acre. This system we have entirely abandoned and now cut the sod up every two or three years and use only enough cultivation to keep the weeds down, with no thought of mulching with anything but green cover crops and sod. The trouble with the "dust mulch" is, that when a thunder shower comes along, we find the best of our soil washes off and down into the river where it never can be brought back. The quickest

way to make our hill land poor is to let it wash away or plow it wet. We have also found that while the soil and tree should be fed year after year in order to make continuous crops, it is also essential to feed the crop with complete fertilizers through the whole crop year. With this end in view we applied a 4-16-4 fertilizer broadcast all over the orchard early in March, and in April we applied two pounds per tree of nitrate of soda and later in June made another application of like amount and the first week in September we applied two pounds of nitrate. The aim in this last application was to hold the foliage and fruit on the tree until full color and maturity were obtained. We believe this matter of soil culture and tree feeding all through the crop year should be given serious attention by our Experiment Stations. We cannot give the tree one meal and let it go with no dinner or supper. Many orchards this season lost their foliage a month too soon. This makes the tree take its rest too soon and is likely to cause the tree to bloom too early next spring. This condition will be shown later to have come either from soil exhaustion, or from tree exhaustion by lack of proper spraying and nourishment of the tree at the proper time. Our orchards are well equipped with pipe systems and when the wet weather came last spring, we kept our pressure up at 500 pounds from 5 o'clock in the morning until 8 o'clock at night and used every hour that the trees were dry enough to cover up both the young fruit and new growth. We had previously sprayed with oil emulsion for scale and cresylic acid for aphids. This spray was applied as late as possible just before the pink stage of blooming and good results were obtained both for scale and aphids. We believe the time of application has much to do with controlling aphids and think it would be wise for our Field Investigation Service to take this matter up and determine just the proper time in the life history of the aphids to make this application. To get the best results, five points are essential to effective spraying:

1. Proper pruning so the material can be applied to every part of the tree.
2. The right material properly mixed.
3. Timely application.
4. Plenty of material applied to cover every part of every tree in the block.
5. Enough equipment to meet all emergencies.

Our mixing being all done at the central plant enables us to test every tank with the hydrometer. Another point is to see that the agitator is running fast enough to always keep the materials in suspension and that every part of it goes into solution. As to the time of application, it is better to start one or two days ahead rather than late, in order to have the machinery working well.

We instruct our gunners to step into the center of the tree and spray

straight up through the tops. This throws a fog out through and over the top of the tree and we further have our gunners to spray up and down as they go around the tree and not to work the guns horizontally. This covers top and bottom alike, whereas spraying horizontally around a tree covers the first 10 feet from the ground, but often does not cover the top. We insist on our gunner spraying clear over the top of the trees from all four sides, and also instruct our hose draggers to notify the gunner if any part of the tree is not sprayed before leaving it. As each man works on a separate line we have our field foreman to climb the trees behind each sprayer and see if he is doing a thorough job. It is wise to keep a mechanic on the job so that all guns and side lines have the same pressure. It is poor economy to spray with machinery out of order as it wastes both the material and time of the operator. We used arsenate of lead in the pink, petal fall, and two weeks spray and used calcium arsenate and Bordeaux in the other sprays applying the last spray July 15 to 20. We make our own lime-sulphur at a cost of approximately \$2.40 per barrel. This enables us to use plenty of this material without too much cost. In order to make lime-sulphur successfully, it is very essential to have good lime and good sulphur.

One serious mistake many growers make in spraying, is to cover the full tree well and slight those with light crops. This gives the worms a chance to eat up all the crop on the light trees and leaves the grower no chance to thin off the defective fruit as in the case of the full trees. Spray every tree thoroughly in each block whether carrying a crop or not. In thinning, we generally carry a small sack and drop all the wormy apples in. These apples are either boiled or roasted on a brush pile which destroys all the worms.

As the making of an apple crop requires a heavy cash investment, it is absolutely essential to invest the money where it will bring the largest returns. With this end in view we cut down 2,000 trees, the past year, which were found to be of uncertain value. In our section the following varieties are of doubtful value as money makers; Duchess, Summer Hagloe, Lowell, Buckingham and Black Twig. Yellow Transparent should be raised on trees not more than 20 years old, as after that age it is hard to get good size. We have found, however, that an extra application of nitrate about May 15 with early cultivation is a great help in getting early size.

After getting a clean crop on the trees it is absolutely essential to pick and pack the crop with the utmost care, as the whole investment is then in the crop. Any careless handling in harvesting can defeat the year's work.

When all is said and done the human element is the largest factor in growing and harvesting a crop. We pay our men according to their skill and the results they get and believe it is a good investment.

WEDNESDAY—JANUARY 3**2.00 P. M.**

Again Dr. H. H. Whetzel, Plant Pathologist of Cornell University, Ithaca, New York, came before the meeting to discuss the control of Peach Brown Rot.

PEACH BROWN ROT

(Summarized from a talk given by Professor Whetzel before Maryland State Horticultural Society.)

By J. H. BEAUMONT

Brown rot is one of the most serious diseases of the peach. It not only causes the familiar rotting of fruit so apparent at harvest time, but also causes the "blossom blight" which is often destructive in the spring. In addition the fungus causes cankers on the larger limbs and also blights and kills the smaller twigs.

The fungus passes the winter in the fallen fruits on the ground, in the dry mummied fruits hanging on the trees and in cankers of the larger limbs. The two most common sources of infection are the mummies on the ground and those hanging on the tree. In the spring immediately preceding or during blooming, the fungus in the fallen mummies will develop cup-shaped fruiting bodies in which the spores or "seeds" of the fungus are formed. Generally, a mummied fruit will lie on the ground for two years before it develops fruiting bodies, although in some cases only one year is required. These fruiting bodies develop very quickly during and immediately following rains. The spores, which are produced in these "cups" or apothecia, are blown or carried to the blossoms on the tree. Considerable dampness as from rains is necessary for the germination of the spores, although the requirements are not so strict as with apple scab.

When the spores germinate the mycelium or "roots" of the fungus grows throughout the blossoms, enter the twigs, and may pass into the large limbs. The blossoms and branch are killed or blighted, causing the familiar blossom blight of the peach.

During the growing season the fungus, in the cankers formed in the spring or in the small mummied fruits, hanging on the trees, will produce other fruiting bodies called conidiospores or "summer spores" and these spores will be spread throughout the season, following rains. As the fruit develops, however, the spores are not able to gain entrance without the aid of some mechanical or other injury. Curculio, oriental moth, or the peach scab fungus are the chief agents in making wounds through

which the brown rot fungus may gain entrance. As the fruit reaches maturity it becomes more susceptible to infection. The mycelium or "roots" of the fungus develop very rapidly throughout the entire fruit and causes the well-known brown rotting of the fruit.

Infection is greatly favored by a series of cloudy days, accompanied by frequent showers, especially at picking time. Under such conditions the fungus develops very rapidly and within a few days an entire crop may be lost. The fungus is also favored by hot muggy weather.

As with apple scab, sulfur is the best fungicide to use. Only the dry mix and colloidal sulfurs are safe because lime sulfur almost invariably will burn the foliage. Perhaps the most important periods to consider in the control of brown rot are the pink and petal fall sprays in the spring and the period when the fruit approaches maturity. Dusting is as effective as spraying, providing finely divided sulfur is used, and thorough coverage of the fruit and flowers is obtained. Sanitary measures such as knocking mummies off the trees, plowing and cultivation before, during and after blossoming will not completely control brown rot because it is impossible to remove all sources of infection. Frequent and thorough spraying or dusting with sulfur is the only reliable method of control.

Mr. Sheldon Funk, Boyertown, Pennsylvania, was introduced to discuss his methods of peach production.

GROWING PEACHES AT A PROFIT

By SHELDON FUNK

Fruit Grower

.. Boyertown, Pennsylvania

I want to compliment your society upon the excellent program, meeting, attendance and spirit that I find here, and also upon the quality of your educational exhibits and demonstrations. It all speaks well of the efforts and work of your officers.

The topic assigned me, was "How I Produced a Clean Crop of Peaches in 1933." Now I don't want to brag, for maybe I didn't have any better crop than many of you had, and if I did, maybe I was just lucky. So if you will allow me, I shall change my topic to "Growing Peaches at a Profit," for you know that we Dutchmen up in Pennsylvania are interested in profits, for from profits come food, and we love to eat.

As a touch of history, I might say that we started growing peaches 25 years ago, starting with eight acres. We grew vegetables in the orchard for the first few years, until our trees began to pay out. In 1918 we capitalized at \$25,000 and started into the business on a larger scale.

If we have achieved any success, it is because we tried to use our best judgment, and because we selected good locations for our orchards where

there was a good, deep soil. Our best orchards are on elevations that are free from frost pockets and away from cold locations. We find that trees on such locations dodge brown rot and scab, to a great degree, and also have a better finish.

In selecting varieties, the main factor to consider is that of planting a group of varieties that are best adapted to your market as well as your local conditions of soil, location, and such things. A special effort should be made to select varieties that will "hit" when others are not in.

I know that you are all wondering what we use as fertilizer. Maybe our system doesn't appeal to you, but we like to see our trees grow. We found that potash did not show results on our type of soil, so we use nitrate of soda applied around the trees, and a mixed fertilizer, mostly superphosphate, is broadcast in the middles for cover crop growth. We use one-half pound of nitrate to each newly-set tree, and increase this amount by one-half pound for each year's growth, until the tree is getting four pounds of nitrate of soda each year.

Now for varieties. We have Red Bird Cling, a worthless variety, in the opinion of most growers, and we agree, but it is our earliest peach and is well colored and as tough as rubber. However, it brings good money in New York; in fact, there were times during the last year or two when Red Birds were bringing \$3.25 when the best North Georgia and Carolina Elbertas were bringing \$3.00. If people want Red Birds that bad, we expect to continue to grow them. We also grow Cumberland, and it looks good and has now taken the place of Carmen. Then there is Slappey, which we grow to some extent. It has high quality, but not a very good shipper. Golden Jubilee ripens after or partly with Slappey. This variety is not as hardy as South Haven or Cumberland. We have discarded Hiley, as it freezes easily and rots badly. In its place we are growing South Haven, a good peach, but a little soft. Eclipse looks and tastes like Slappey. We are not especially strong for this variety, but it has high quality, its main fault being tenderness. It sells well to the automobile trade. Georgia Belle is hard for us to sell, but it has one good point in that it is hardy. We prefer Early Elberta to Georgia Belle. Early Elberta is of good quality, earlier and better in quality than Elberta. Then, of course, comes Elberta, our main variety, followed by Brackett at the tail end of Elberta season. Brackett may have a tendency to come into good bearing rather late, and after seven years our Bracketts are doing better. Hale ripens with and follows Elberta. In our plantings we have what we think are two separate types of Hale, and I have seen the same thing in other Hale orchards. This other type is a longer fruit, in shape than the Hale, and comes a little bit later. Then the Shippers Late Red season follows closely, if we have the true variety.

Somehow, the nurserymen must have mixed Shippers with Hale, for our trees run about 80 per cent Hale and the rest Shippers. This is a valuable peach, redder and of finer quality than Elberta. Fox Seedling does rather well for us in a moderate planting, as it has a late season.

Roberta is of value for the same reason. We also have some Iron Mountain which has quality and a late season. Roberta, Salberta and Augbert are much alike, as far as we can see. Salway and Krummel are fairly good, but they come too late with us, and do not finish off well.

We had some pollination trouble with Hale, but budded South Haven into the Hale trees, so that we have pollination, and simply pick the Haven as they ripen on the Hale trees.

Our first orchards were set 20 by 20 feet, but we now set the trees 22½ to 23 feet, staggering the trees, instead of setting them on the square system. We do not like intercrops in young orchards. Young trees should have the land entirely to themselves, and a good system of cover crops to build up the soil as the trees grow. We use sweet clover as a soil builder, but generally start in young orchards by cultivation until about June 1, then sow a cover of millet or Sudan grass, later getting the land over into sweet clover, in all cases cultivating along the tree rows, allowing the cover crop to use the middles.

I neglected to say that in applying fertilizer to our trees we blow it on with a duster, and we can gauge about what amount to give the trees.

We apply a dormant spray of lime sulfur, and if red mite is present, oil is added. The rest of the time we use 80-10-10 dust, the mixture being sulfur, lime and arsenate of lead in parts according to the above figures.

Trees three years old and above are gassed each year for borer.

We plant one-year-old trees, 2 to 3 or 3 to 4 feet tall, as in our soil we get good trees from such stock.

Peach yellows has been declining in our orchards and we have had very little of it, but there was some increase of it last year.

If there is a glut in the market at picking time, we put our peaches into our large cold storage plant and can hold peaches there for 3 to 4 weeks, at 35° degrees Fahrenheit. I might say that a month is the outside limit of successful peach cold storage and temperatures below 35° F. are likely to cause trouble.

Finally, I might say that we consign all of our fruit, as we are more certain of a good price, and also, we do not confine our shipments to any one man in any one place. In this way we can check up on the commission men, and if there is a difference in prices in one market, we can check up on the salesmen, and find out where the trouble lies. This has been our most satisfactory method of sales, and our crops are usually cleaned up well on the markets.

Dr. E. N. Cory, State Entomologist for Maryland was introduced as the next speaker.

OUR INSECT CONTROL IN 1934

ERNEST N. CORY

State Entomologist

College Park, Md.

Fear of excess spray residue and economic conditions in a large measure governed the attempted control of our orchard pests in the past year. The same factors undoubtedly will be operative to a greater or lesser extent during the coming year. The degree of control in codling moth that we will secure for 1934 will be dependent in a large measure upon the amount of pruning, tree removal and scraping of the remaining apple trees that is done during this winter, which in turn will determine very largely the character and extent of spraying that will be done between now and spring, and subsequently in codling moth control. Fear of excessive spray residue led many growers to curtail their spray program against the codling moth last year. The same condition will face those who are unable to wash their fruit during the coming season. The arsenic and fluorine tolerances for next year remain the same as they were this year; namely, 0.01 of a grain of either per pound of fruit. The lead tolerance has been set at 0.019 grains of lead per pound of fruit instead of 0.014 as was suggested last spring, due probably to the fact that growers everywhere have had trouble in reducing, by washing, excess lead deposits to the latter figure.

Economics will undoubtedly determine the amount of dormant spraying that will be done this winter for scale, aphids, and red mite, just as it has in the past few seasons. However, a grower who has neglected to apply a dormant spray in the past season certainly should apply a dormant spray this year if he expects to keep his fruit within grade. For a strictly dormant application a combination of 2½ per cent tar oil with 3 per cent lubricating oil emulsion may be used. Remember that this application must be made when the trees are completely dormant. If the delayed dormant spray is preferred, 3 per cent lubricating oil emulsion plus one-half of 1 per cent of cresylic acid should be used, or concentrated lime sulphur at the usual winter strength. Both the cresylic acid and the tar oils gave excellent control of the rosy aphis in the orchard which we had under observation, but the tar oils alone are not efficient against scale. Therefore the Cumberland-Shenandoah conference agreed upon the combination of lubricating oil and tar oil. The latter should have a distillation range between 255° C. and 400° C. Many of the commercial concerns are manufacturing a combination spray that meets with the specifications laid down by the conference. Other concerns are able to furnish the tar oils. In no case should the tar acids exceed 10 per cent in the finished product, and the exact amount of tar oils and lubricating

oils should be determined from the manufacturer if a combination oil is used.

Since there was a heavy outbreak of the rosy aphid in 1933 and experience indicates that there is likely to be a continuation of the aphid damage for one or more years subsequent to a serious outbreak, all growers that had such an outbreak should take measures to combat aphids in 1934. Growers should bear in mind, however, that scab was just as serious last year as aphids and should plan to get on early lime sulphur sprays, at least on the most susceptible varieties, as early as practicable.

The codling moth situation in Maryland was quite serious in some individual orchards, though the general average was not materially different than in previous years. Certain orchards have a heavy population of the codling moth, which must be combatted as vigorously as possible by proper sanitary measures and thorough spraying during the growing period. Two programs for codling moth control are offered to the grower, one designed to meet the requirements of those growers who can wash their fruit, and the other to meet the need of growers unable to wash their fruit. The first constitutes a complete arsenate of lead schedule, together with the proper fungicides. In this schedule the use of lead should, in most cases, be discontinued on July 15, though where a heavy population has been built up, it may be necessary to apply a cover spray of lead in early August, and then to use the most modern methods of removal of the residue. The other schedule calls for the substitution of calcium arsenate at the rate of two pounds per hundred gallons of spray, beginning with the second cover spray. Our experience this year indicates that it is necessary to use Bordeaux mixture with the calcium arsenate in order to prevent foliage and fruit injury. Our tests in 1933 with calcium arsenate were relatively satisfactory and enabled growers who could not wash their fruit to escape undesirable lead residues at the harvest period. Arsenate of lead gave the best control of any of the materials used and next to that calcium arsenate, where it was used throughout the season on the Eastern Shore, gave fruit that had only 3 per cent worms and 25 per cent stings at harvest time. The average of three orchards on the Eastern Shore, one of which used calcium arsenate throughout and two that used calcium arsenate subsequent to the first cover spray, was 6.1 per cent wormy and 7.1 per cent stung fruit. In the same two orchards, both of which had heavy codling moth infestation to start with, a complete lead spray showed an average of 10.6 per cent worms and 37.77 per cent stings. Our results, therefore, with calcium arsenate were most encouraging, but since they represent only one year's work, and since the surrounding States failed to get as good control as we did and in many cases had serious foliage injury, the results should be considered as merely preliminary. They are indicative, however, that calcium arsenate was used successfully this year against the codling moth, even under conditions of serious codling moth infestation.

A large number of materials were used in various combinations in plots in the College orchard, with arsenate of lead giving the best results. However, a new material, arsenate of zinc, in limited tests, gave very encouraging results and we expect to continue our tests to determine whether it will be satisfactory as a complete substitute for arsenate of lead.

The recently organized East Central Fruit Production Credit Association gives promise of better conditions for the orchardists in the five States—Pennsylvania, West Virginia, Maryland, Delaware and Virginia. This organization will provide credit for the production of the 1934 crop and all growers should see their County Agents about applications for production loans. If sufficient funds are available to the grower so that he can prune, scrape, band and spray his orchard during the coming season, there is no reason why Maryland growers should not be able to produce a crop of fruit reasonably free from scale, aphid injury and codling moth damage.

Following Dr. Cory's address, Dr. G. S. Langford, Specialist in Insect Control, discussed the quarantine regulations and present status of control of Japanese Beetle, illustrated by moving pictures.

WEDNESDAY—JANUARY 3**6.30 P. M.****ANNUAL GET-TOGETHER DINNER**

The annual dinner of the Society was held in the University of Maryland dining hall. Following the dinner, Dr. R. A. Pearson, President of the University of Maryland, extended welcome to the members of the Society. He stated that the growers were forming a good habit of coming home each year to the Horticultural Building, which they so ably helped the State to build for the fruit industry. He welcomed the growers who were present from Virginia, Pennsylvania, Delaware, West Virginia and Maryland. He also welcomed Professors Hartzell and Whetzel of New York and Mr. Robert A. Simpson, prominent fruit grower of Vincennes, Indiana.

President Pearson commended the optimism of the fruit growers in meeting their many serious problems. He told of the decreased appropriations of the University of Maryland, but the same number of students attending, and stated that all of the forces were doubling their efforts to keep the standards of the University at the usual high level. It was his opinion that the Land Grant College is the best friend of the farmer; carrying its extension and research work to the farmer and regretted that there would probably be a cut in Federal appropriation to Land Grant institutions.

According to Dr. Pearson, the agricultural colleges and experiment stations have not added to the farm surpluses, but have tried to help in correcting farm ills. Their work motto has been "Not for farm surpluses, but for the farmer's self-protection."

The greetings of the Agricultural Experiment Station were given by Dr. H. J. Patterson, Director.

Dr. Patterson stated that he had attended all thirty-six meetings of the Society. He was pleased to see the farmers becoming more scientific-minded and recalled the day when San Jose scale threatened the fruit industry. The farmer working with the scientists controlled that pest. He compared that period to the present situation regarding codling moth control, and was pleased to see how the growers are working with the scientists to produce and sell a clean, well-finished product intended as a human food. He stated that the staffs of entomology, pathology, horticulture and economics are working on projects of importance to the fruit

grower and farmer, and saw a hopeful sign in the attitude of the growers toward the State Experiment Station, predicting a bright future for the fruit industry in Maryland and the nearby States.

The greetings of the Extension Service of the University of Maryland were extended by Dr. T. B. Symons, Director, who stated that he had been present at thirty-four meetings of the Society. The speaker briefly dwelt upon the great work and enthusiasm of the older founders of the Society. He seemed to feel that the Eastern fruit industry was not taking advantage of the present conditions of credit, market and trade agreements. The recent action of Argentina, France and other countries in quota reductions and trade agreements, he stated, should make the industry feel the importance of our foreign trade, as 80 per cent of the Maryland apple crop that was inspected in 1933 was exported.

According to the speaker, extension forces have had the most strenuous year in their history, but are still ready to serve the interests of the farmer and the fruit grower. He expressed hope that the fruit industry would not glory in the past, but would diligently work to surmount the problems of the future.

At this point, President Carpenter introduced Dr. M. B. Waite, Pathologist of the United States Department of Agriculture, and Professor C. P. Close, Extension Horticulturist of the United States Department of Agriculture. Both of these men have made notable contributions to horticulture, and Professor Close was a former secretary of this Society.

The guest speaker, Mr. Sam Fraser, was introduced.

OUR FOREIGN TRADE POLICY—NATIONALISM OR INTERNATIONALISM

SAM FRASER,

International Apple Association,
Rochester, New York.

When I was with you a year ago the New Era was preparing its closing scene. It had completed its course. From the return to normalcy of Harding, we passed to the Cardinal Wolsey like full-blown-pride during the Coolidge Administration, when the admonitions of Coolidge had little avail, for this was the New Era. Then came the strenuous four years' attempts to soften the fall made by the unfortunate Hoover, who terminated his administration with preparations for the closing of every bank. (Awalt and Ballantyne had all ready and stayed to put it through.)

With tragic reality we re-enact the life of Wolsey—from butcher's boy to Cardinal and great power and back to the hair shirt and death. From poverty to great riches, hysterical pride to chaos we ran the gamut. We enthroned the dollar. While the nation will go on and come through, many individuals will, like Wolsey, pass off the scene. They may in

irony join him—"Had I but served my God as faithfully as I have served my King, He would not have left me in my old age."

The New Era is closed. The New Deal is before us. With the program experimental, results are unknown. When one knows how to achieve an end, he does not experiment. President Roosevelt has advised us that if he fails to find a way out of the depression by one route, he will try another.

Meanwhile let us recognize the fact that the New Era of the 1920's is dead. It is history. While the individuals who were caught in its meshes are as dead as Wolsey, the world goes on and the nations move, and whether we move to greater glories as England did under the Tudors will probably depend somewhat on the manner in which we react. Life is adjustability. If we cannot come into adjustment with change, we are dead already.

The world at large is coming out of depression and other nations are leading us out. If we stand on the seashore and the tide is ebbing and we run to the sea, we may imagine we are driving it out; when it turns and we run back to land, we may say we are leading the tide in. It is all our imagine. We do not lead the tides in or drive them out. There is a time in the lives of men which, taken at the flood tide, leads to fortune.

We had better recognize law if we would prosper. No man breaks a law. The law breaks the violator. A man may violate law, but not break it.

The way out of the depression is recognition of law. Violation of law took us into it. Observance of law will bring us out.

The Path to a Loaf of Bread

The path that leads to a loaf of bread

Winds through a swamp of toil,

And the path that leads to a suit of clothes

Goes through a flowerless soil,

The paths that lead to a loaf of bread, and a suit of clothes,

Are hard to tread.

—Walter Foss.

One of the chief aids to nationalism is fear. The swamp of toil through which many of those of mature years have passed, turns my mind to Europe with its 500,000,000 people, and it is true of much of Asia with its billion of population. Many of the 123,000,000 of the United States have been spared the lesson which the past fifty years of life in Europe, as a working man, would give. The five years of war and the fifteen years of aftermath and the background of the centuries of jealousy, greed and hate. These are our problems in the broad sense.

France builds new fortifications. It fears attack. Belgium rebuilds her forts. From fear.

She has been the battle ground of Europe, and so we go over Europe. The starvation and sorrow that attend war are ever present in the minds of the nation.

Japan erects Manchukou and considers holding Mongolia as barriers against the communism of the Soviet, and as an outlet. With 95,000,000 people she wishes to assure herself supplies.

There is the individual reaction to consider also. The fear of unemployment which has forced unemployment insurance on the statute books of some countries.

The fear of sickness and old age which have forced insurance provisions to cover these. The impelling force is in all of us. The city press bears the frantic calls for the Government to give new assurances to business. Wall Street calls "restore confidence." Everywhere we hear the whimper and cry of fear.

And the path to a loaf of bread is through a swamp of toil.

When man's fear is with nature, as when this country was young, doors had few bars and bolts, and in country districts in Western New York even today the door may not be bolted. How different from the city apartment—the ideal American dwelling with its Yale lock and its realization that now man's chief fear is his fellowman. If we live in a city flat, we do not fear the cold of winter. We pound the radiator or call the janitor. Civilization has its compensations and its costs. Rugged individualism may mean ragged individualism. The price of a suit of clothes may be the surrender of individuality.

To enjoy liberty of action we surrender freedom of action.

Everything we do has a possibility of the opposite effect from that anticipated, and every plan of man carries within itself the seed for its own destruction.

In our world nothing is simple. The stopping of an apparently insignificant function may have far-reaching consequences on the body politic. A small item in international trade may so affect the balance that many nations may be forced to readjust once it is effected. China had an overland trade in brick tea with Siberia and Russia, which was lost during the war. The result was that certain Chinese could not purchase cotton goods from Lancashire and Lancashire could not buy cotton from the United States, and our cotton piled up, and Shanghai is now making its own calicos and England and the United States must adjust. Loss of the overland tea trade between China and Siberia put the American cotton grower into difficulties he will never overcome. We say that only 8 per cent of our national turnover comes from foreign trade and therefore it is negligible. In the ten years of prosperity for American corporations, 1920-1930, the net after allowing for necessary amortizations was about 4 per cent. This was secured when our export and import trade was at peak. The loss of 8 per cent of business may do much

more than turn a 4 per cent profit into a 4 per cent loss, and losses continued force bankruptcy.

If we are to plan to permanently lose all export trade, huge capital losses must yet be taken and our readjustment has barely begun.

Civilization is perhaps rightly regarded today as at its peak of achievement, yet the twentieth century—this period of progress has seen more war than any previous three centuries, more men engaged, more dead, more cost, more destruction, and this was the war to end wars. It has been followed by fifteen years of economic warfare more devastating, more destructive of the souls of men than perhaps ever prevailed prior, and the United States has shown leadership in it: Witness the quarantines which so vitally affected France and Belgium, the tariff of 1922 and the Hawley-Smoot Tariff of 1930. The latter may be credited with being the culmination, the finale from which came much of our present woe, and the agricultural leadership of the United States took no small part in securing enactment of several features which have been decidedly detrimental.

We may well raise the question, will our compression, our annihilation of distances, our civilization, develop international understanding, or may we only look forward to more wars. If the world fears wars, which present sentiment clearly indicates, then prepare for more of nationalism. Each and every nation seeking to develop within its own walls, everything it believes essential for existence, even though it is secured at greater cost than would be necessary if trade was free to move as I think it should.

Look back to the third decade of this century, 1920-1930. View the spirit of contemplated adjustment following Versailles—the League of Nations, Lacarno and its hopes, naval and land disarmament, our own Briand-Kellogg pact. The International Chamber of Commerce, the founding of the International Bank, the attempts to work out an understanding looking to peace. The hoped-for stabilization of currencies, the great developments of science and, fortunately for the world, the freedom with which the findings of science are disseminated, this latter may be indicative of the way to progress.

The development of radio—nation can talk to nation; the development of flight—round the world in eight days. Surely these will lead to a closer integration of peaceful effort, business interchange, financial stability, psychological neighborliness, and yet, strange to say, they have not.

The international co-operation which had started is disintegrating. International commerce, instead of increasing, is diminishing. With greater facilities for the promotion of trade, trade barriers are multiplied, and financial interchange becomes more difficult.

With a more compressed world, we seem to have developed the spirit of the crowded thoroughfare. The red light and the police halt the traffic

at every cross street. The crowd jostles and pushes and fights to get across the street to make the subway, where they fight some more to secure a strap after having been forcibly pushed into the car and the door closed by an electrical device which controls and hurries them on their way at a pace established by some subway control board, for their own purposes, and men and women so handled pride themselves that they live in the finest city on earth and have reached the highest state of human attainment. They do not live "in the sticks."

The spirit is abroad on the face of the earth. Ireland with its "Sinn Fein," "ourselves alone," as their emblem, betray no spirit of international consideration and they boldly assert their view. They took President Wilson literally. Self-determination of nations, and they were a nation. Like the Irish girl J. H. Hale used to tell about, who had worked with his mother while the children were little, until they had come to regard her as one of the family, and who had decided to marry a man whom his mother designated as "no account." Expostulations were of no avail. Pleas that he would get drunk and probably beat her had no effect, for she said in reply, "Missie Hale—I've cum to the time in life that I want to sphit in mi own stove."

So it is with the world. With all our development, we want to live in a flat, in a congested place, where we keep doors and windows locked, and we do not need to say "Good morning" to the person next door unless we want to do so.

The friendliness of the American country home of years ago, when there was no lock on the door, and everyone was deeply concerned if a room in the house was going to be papered next spring, or a new house was going to be built for the next couple to be married. That spirit is of yesterday. Will it ever come back?

The New York Legislature is holding hearings as to the desirability of inspecting every out-of-state carload and every truck load of fruits and vegetables as soon as they reach its border, with a view to seeing how many it can forbid entry, and it proposes to assess the inspection cost on the shipper. The idea is to protect the New York producer. California will not admit New York apples and New York is contemplating what it can do to California, and, if carried out, we shall soon have 48 Balkan States in the United States.

Increased propinquity seems to have developed a more intense spirit of nationalism and even sectionalism. Propinquity and the compressed world seem to have developed some formerly unknown barriers. Perhaps persons and nations are taking the same course to protect themselves; erecting barriers to try to save some individuality, and compression has brought new problems.

The free trade idea was that regions best fitted to produce should do so, and the same with regard to fabrication. Birmingham for iron; Manchester for textiles; Bradford for wool; Sheffield for cutlery, etc.

We are fast revising opinions—Shanghai looms are challenging Lancashire for the China trade; Russia is equipping herself for fabrication of her needs. There will be no places left with monopolies in this line, and American exports in manufactures may never return to their previous position. What about raw products? Some of these will be produced where they now are because of climatic conditions—such may stay.

Some minerals are available only in certain places or their accessibility is so much greater at certain points that they will for some time retain their position—phosphatic pebble rock on the coast of Florida, the phosphatic rock in Algeria, aluminum ores from South America, etc., but none of these have any more permanence than the Chilean nitrate of soda supply, which is now having difficulty in meeting synthetized competitors, and such waste products as sulphate of ammonia. Fear again enters the picture and we develop a Muscle Shoals plant, although it is so far out of date before it begins that its operation at a loss is assured—so nationalism again becomes a factor in deciding which of our raw products shall continue to move in international trade.

One thing will aid in keeping up the movement of raw products, and that is that nations engaged in fabrication will for economic reasons seek the most economic source of supply. A third group may be classed as luxuries. Certain wines of France have recently been offered in trade for certain raw products of the United States. The wines are coming in, but the terms which were acceded to will not move any apples out. These then are the three great groups for our consideration, and where do we fit in?—raw products, manufactures, luxuries.

We are a great industrial nation; we can trade manufactures for raw products and we shall take in more food, placing our own people into manufactures because it will assure a standard of living more in keeping with that now developed, but it will be at the expense of agriculture.

To many countries who are equipping themselves for manufactures we shall export machinery and capital, and so curtail some of our exports.

We shall exchange certain raw products in exchange for luxuries, especially those for which we have favorable conditions for production, and in that category I place apples and pears, but unless some trade barriers are removed, we are faced by further curtailment of markets for these.

In 1932 we lost about one-third of our apple exports compared with the year before, and this volume was maintained only by giving the apples away. They were not sold. Moving on consignment, many failed to return costs of freight and packages. This year exports are about two-thirds of last year, while Canada has made an increase of about 80 per cent. Australia, New Zealand, South Africa, Chile, Argentina, Europe, are all increasing their production. All are learning the lesson of production. We have fewer trees, and from them secure more apples. They are handled in a commercial manner. Other nations have made like

progress. Markets are closing faster than we are opening new ones, and what are we doing about it?

From 1920 to 1930 we loaned our customers the money to buy our exports, sometimes to the extent of a billion dollars a year in excess of what we took in return; at the same time we told our farmers we would aid in financing the dumping of surplus of certain crops and keep the domestic price above the world price and gave the Farm Board \$500,000,000 to try it on wheat and cotton. That is now stopped and in its place we are offering the world a dollar's worth of goods for 62 cents and some buyers are showing a little interest, but if we are going to sell a dollar's worth at 50 cents, there is no use being in a hurry to buy. Lack of confidence as to where we are going is doing about as much in a negative way as the decrease in price is arousing positive interest.

If we continue the policy long enough, of course, we may carry the matter to the point that we give the goods away and maintain a high domestic price, but this will soon operate to check the movement, and foreign barriers will mount.

The conception in the United States which prevailed during 1920-1930, that if the price of our exports of farm commodities was sufficiently low, enough would be moved out of the country so that domestic prices would rise to pre-war level or above, did not give consideration to the changed position of the people who formerly were our customers. They are now our debtors and we are the creditor. Formerly they were the creditors and we their debtors and they took the commodities as payments on interest and principal.

Being debtors and short of funds, which is the reason a man or nation is in debt, their governments sought to encourage the production at home of that which they needed, and extended the protection of law to the enterprise. Exchange restrictions, quotas and other forms of trade barriers, "Buy British," "Buy Empire Produce," became slogans; they were the attempts to direct attention to their dilemma.

One part of the world cannot be sick without someone else feeling the effects, and so large a part was involved in the war that all the world felt its effects and we, a great creditor nation, proceeded to advertise our despair by advising "Buy American," which was soon restricted to our home town and we soon had "Buy Rochester Made," "Buy at home," and a State like Illinois, whose enterprise is from 80 to 85 per cent interstate, would be advising "support your home town," and the attempt to follow out the advice only further increased the difficulties and the problem.

Every country and every town made its "own hot spot" a little worse. Our methods in wheat production illustrate the manner of our development. It applies also to apples, but not to the same extent.

We have become more efficient producers, not only in the United States but in Canada, Australia, Argentina and in Europe. World wheat pro-

duction increased faster than wheat consumption, and this increased the number of hungry mouths. For the wheat grower could not move his crop at production costs and his diminished power to purchase city goods put city people out of work.

Excess of food make folks hungry. The road to a loaf of bread is rightly through a swamp of toil.

We must either go through an adjustment of production by the old process of letting the laws of supply and demand operate, or control production if we would control price, and to control price of food in a country where four out of five voters are urban or labor and one vote is rural will never work, unless the price established is below true economic value.

The magnificent crop of apples grown by Nova Scotia this year (and it is record), is moving at so low a price that it threatens many producers with financial ruin, and these apples enter the United Kingdom, duty free, while we pay 4/6 per cwt. or about a cent a pound duty. Our exports to United Kingdom are about half of last year to date, while Canada shows about 90 per cent increase and together exports exceed last year about 10 per cent. The United Kingdom markets are being supplied, even to excess. The Ottawa Accord functions.

This illustrates the way we are losing markets. Previous to 1929 the United States exported more than half the cotton crop, one-third of our lard, 40 per cent of our tobacco, 20 per cent of our wheat, 20 to 22 per cent of our apples and about fifty million acres of United States crop land were devoted to producing crops for export. Much of this export demand is gone forever.

How shall cotton production be slowed down? We have started by paying to plow it under; and to overcome the loss of market for lard, we have started to pay to kill the hogs. How far shall we proceed? Can we persuade farmers to adjust by such methods? Secretary Wallace recognizes the danger. If the farmer has money, he spends it and the city prospers. How much can the city afford to pay to give the farmer purchasing power, or shall we let nature take its course? A decision must be made. We cannot continue in 1934 and 1935 the program of 1933, unless prepared to apply it to every crop and then why not every industry? Clothes and shoes?

Can we do anything to revive exports? The International Apple Association believes something can be done to assist apples and pears through a readjustment of our tariff policy, reciprocal agreements, reduction of trade barriers, removal of quotas, exchange restrictions and highly technical and rigorous inspections and stabilization of our monetary units.

That portion of our debt which was due to war, we may never collect and its value for trading purposes has declined greatly. The goods represented by these sums of money were not used for any productive enterprise; they were used solely for the destruction of life and property. If we kept non-combatants alive, it was that they might prepare, or be

future cannon fodder. These sums of money have no assets behind them. They were not self-liquidating projects. They are gone.

We do not put a child in prison for the sins of the father. Guilt is personal. Those who share in the work of war must pay the price of war. There are no victors today in war—all lose.

Between 1914 and 1918 this country changed from being one of the world's debtor nations into the position of a great creditor nation and no one took the trouble to enlighten the mass of people that this would necessitate a complete change in their mode of approach to many problems.

Instead of meeting the issue, we tried to camouflage it. Instead of adjusting production in such a way that the balance of trade might be against us, we loaned money to our customers or sent more goods abroad on a charge account, which is the same thing, until the other countries of the world owed us with adjusted interest a sum of thirty-three billion dollars.

This further consolidated our position as a creditor nation, but still we failed to recognize the fact and adjust to meet the changed conditions.

To secure 5 per cent interest on twenty billion dollars a year, we must receive imports of a billion dollars a year in excess of our exports. We still continue to export more than we import.

We can never get 5 per cent interest in the first place. With the world's percentage increase in commodity production tied to about 3 per cent, under good conditions, and in recent years down as low as 0.5 per cent ($\frac{1}{2}$ of 1 per cent), the world cannot pay 3 per cent interest.

Rothschilds for years had an axiom: "He who lends money at 6 per cent will own the business and he must be prepared to take the business if he insists on 6 per cent for a long enough period of time."

If we would be paid, we must accept either goods or service. We have more goods than we can use and we have 10,000,000 people out of work. We have gold, ships, idle men and supplies in abundance and people in need of them, but we have not the necessary business ability to solve the problems.

What about the farmers' income problem? Parity is the problem. One of the provisions of the Agricultural Adjustment Act is that farmers shall receive a share of the national income commensurate with their contribution to the national welfare. Parity with pre-war has not been maintained. One estimate shows that compared with the pre-war share, the actual farm income for the years 1920-1923 was short by about fifty billion dollars. This money enabled industry to make fabulous profits; it was used in speculative markets, the stock market orgy of 1929; it was frittered away in foreign loans. A study of incomes shows that total payrolls of factory labor and gross income of agriculture have been about the same for some years. In 1929 both were about eleven billion dollars. In 1932 both were about five billion dollars. Now farmers want 1929 prices and income and if given 1929 prices today, their income would fall; the buying power is not there to justify it. Both must rise together.

Incomes for 1933 are about a billion dollars above 1932. The upward tendency is apparent. Recovery must be slow. It cannot be accomplished over night.

I believe that we cannot have immediate stabilization of the dollar at the present international price.

The Administration financial program may be stated as: Stability in the exchange rate and stability in domestic prices are not both obtainable. The attempt is to be made to stabilize domestic prices at a higher plane and let the exchange rate fluctuate. This is in conflict with the old gold standard which sacrificed everything to sustain the exchange rate. President Roosevelt has sacrificed the exchange rate to sustain interior prices.

The financial warfare we are now waging against other nations in attempting to lift our domestic prices through purchasing their gold with depreciated dollars will probably lead to retaliations, more trade restrictions and ill will which will stand us in poor stead when we seek international cooperation in stabilization of our monetary problem which we must necessarily do. The action of Holland is a case in point. This valuable apple market is practically closed with a duty of \$2.30 a barrel, recently placed.

I am amazed that the price fixed for gold by Congress in 1834 maintained unchanged for 100 years. We cannot return to that price for gold.

So long as we advise that we are going to continue to reduce the value of the dollar in foreign markets, so long do we undermine confidence. It is enough of a problem to deal in a commodity and succeed, but when you have an unknown factor of exchange and you have the factors of exchange to consider in both buying and selling countries, confusion reigns and business lies prostrate. Purchases are made up of small orders placed at frequent intervals. Control of dollar exchange by buying and selling gold and foreign currencies at definite figures, so as to avoid wide and meaningless fluctuations with the right to shift the parities at any time and make such adjustments as our price levels necessitate would put more life into both exports and the imports.

We have a far advanced cancer and the victim has severe headaches and we suggest an aspirin tablet. Such is about as far as we have gone in our approach to our problems.

For a serious malady we attempt to treat symptoms. Time is the great healer of many ailments and I believe recovery from the destruction of war will take time.

Prices of commodities in Great Britain expressed in sterling, reached pre-war relationship in November, 1931. Prices of commodities in the United States, expressed in gold, reached pre-war relationship in December, 1931.

British sterling prices (and they affect about half the business of the world) have since remained fairly constant, some slight increases from 1931 to date.

United States prices continued to decline from December, 1931, to March, 1933, when we closed our banks.

Recovery in Europe was notable from June, 1932 (the Lacarno Treaty and the adjustment of German war debts), and Europe has continued to improve while our conditions got worse. Europe is leading us out, in recovery. Certain fundamentals were recognized and in a measure settled. War debts are practically recognized as dead.

Our difficulties have not yet been solved. We have NRA and AAA, etc., and so on and I agree with Secretary Wallace that "What we have done has been frankly experimental." "We are temporizing with the situation until the American people are ready to face facts."

"Ever since the war, we have dodged facts." "For 15 years the United States has blundered along refusing to decide whether she would use her creditor position in world affairs to assume a position of world economic leadership or whether she would toss overboard the debts owed from abroad and follow a policy of strict nationalism or whether she would adopt some combination of the two. The prompt and steadfast solution of this problem is more important to farmers than to any other large class of our population. The failure to adopt a sound course in our foreign relationships has cost the farmers of the United States many billions of dollars. It was a damnable thing during the period of 1922 to 1929 to gloss over this situation by loaning from five hundred million to one billion dollars annually abroad every year, without at the same time preparing the American people for the necessity of lowering tariffs so as to accept goods from abroad."

"The plan we followed was essentially to close all the safety valves of the international boiler and then to increase the pressure beyond endurance by demanding payment of debts from abroad with one hand while with the other hand we made sufficient payments impossible by our tariff policy. The explosion was bound to come when we stopped loaning money abroad."

"Today there are millions of people in the United States, Democrats and Republicans alike, who want to play the same old game all over again. They want to see us loan fresh hundreds of millions of dollars to foreign nations so that they can buy goods from us while at the same time we increase our tariffs another notch."

"Foreign loans are all right provided at the time we make them we know that we are certain to have a tariff policy which permits their repayment. this means a totally different kind of tariff policy than we have ever had in the past. It means a complete change in the psychology of the American people."

"If we in the United States are to follow the path of internationalism, we must have both political and financial leaders in whom we have confidence. The people themselves must be in on the plan. They must be willing to stay by it not for four years only, but for at least 10 to 15 years. A plan of this sort in the United States means that certain industries which

are either inefficient or have used the tariff to enjoy what essentially is a monopoly profit, will be harmed by the necessary lowering of the tariff. This means that if the majority of the people of the United States decide on internationalism as a long-time policy, they must be prepared to stand up against the political pressure coming from the minority groups which will inevitably be hard."

"Furthermore, if we continue year after year with only twenty-five or thirty million acres of cotton in the South instead of forty or forty-five million acres, it may be necessary after a time to shift part of the Southern population, and there is a question as to just what kind of activity these Southern farm laborers should engage in. We will find exactly the same dilemma, although not on quite such a great scale, in the corn and wheat belts.

"If we finally go all the way toward nationalism, it may be necessary to have compulsory control of marketing, licensing of plowed fields, and "base," and "surplus" quotas for every farmer for every product for each month in the year. In other words, it may be necessary to make a public utility out of agriculture and apply to it a combination of an Esch-Cummins Act and an Adamson Act."

If we follow the national program, we must resolutely plan to keep fifty million acres of land out of use, no matter how loud may be the outcry of certain carrying, handling, processing and exporting interests. If we decide to lower our tariff only part way and reduce our acreage only part way, we must have the courage to do sufficient of both so that the job is done.

"History shows that great economic and social forces flow like a tide over communities only half conscious of that which is befalling them. Wise statesmen foresee what time is thus bringing and try to shape institutions and mold men's thoughts to purposes in accordance with the change that is silently coming on."

THURSDAY—JANUARY 4**10.00 A. M.**

Mr. G. Hale Harrison, a former president of the Society was introduced as the first speaker.

MUTUAL PROBLEMS OF THE GROWER AND THE NURSERYMAN**G. HALE HARRISON****Fruit Grower****President, Harrison's Nurseries****Berlin, Maryland**

I realize that the fruit grower and nurseryman do have many problems in common. The fruit grower is trying to produce the best fruit possible and the nurseryman is trying to produce for the fruit grower the best trees obtainable. Growers should insist upon getting the best trees that they can buy. There is a tendency to try to get cheap trees and in so doing naturally the stock must be inferior. Then, there is a tendency to "beat down" the prices of trees. This can only result in a sacrifice of quality. In many cases the price of stock is now below the cost of production and the nurseryman is not strongly encouraged to keep his stock to a high quality standard. There are too many varieties and too much waste in producing these many varieties. A few years ago we cut our list down to 16 peach varieties and 19 apple varieties, but found that we lost many sales simply because we did not have a few odd varieties that our customers wanted; so they bought from other nurseries where they could buy their complete order from one place. To overcome this difficulty we put back some varieties and in many cases these odd varieties or "strays" are carried as overhead for the sake of a few sales. At the present time there is a considerable swing toward new varieties. The trees are rather expensive. This is not due to the fact that the nurseryman is making money, for the introduction of a new variety is a costly and risky proposition. New varieties are not always true strains. They should be tried out carefully before the nurseryman accepts them for introduction to the trade. Sometimes a variety may be influenced by soil or weather and I would caution growers to be sure that they are planting trees which are true to type.

The recent Plant Patent Act has been an excellent thing for both the grower and nurseryman and it will be a protection as well as an incentive for nurserymen to produce the best in new varieties. At present there is a new peach patented which is larger than Hale and about two weeks

later. There is also a patent pending on a new red York which was found near Shippensburg, Pa. This variety will probably be called Red Yorking.

There is a lot of detail in nursery stock production and the grower should take a little time to visit a nursery and see for himself that the nursery has plenty of problems to work out. It is harder to grow fruit trees than to grow roses and ornamentals. This may explain why many nurserymen have cut down or abandoned their fruit stock plantings and have gone over into ornamentals.

The selection of buds will illustrate difficulties in nursery stock. I believe that buds should be selected from bearing commercial orchards to assure the resulting trees to be true to name. In such cases we find that trees come into bearing a few years earlier. If buds are taken from young propagating stock only and this propagating stock has never been allowed to bear, there is a slowness in bearing in the resulting tree. Records show that buds taken from bearing trees produce much more fruit than buds from common propagating stock, when this bearing is considered over a period of years.

There has been less tree planting recently than for the past 40 years, due to the economic conditions and the abandonment of orchard land in some sections of the country. At present our best customers are the peach growers in the South who are going over into the early peach varieties. I believe that there will be a scarcity of stock for the 1934 spring planting due to a bad stand of apple seed in the United States which gave a very low production of seedling stock and there is no chance of getting nursery stock from France, since they have greatly cut their plantings and besides there is a quarantine restriction on importation of apple stock. This may be a blessing in disguise, for with less planting this coming year and the removal of old, weak trees and poor varieties, there may be a reduction of the crop which will better fit our markets for the next few years. Then, too, nature and the lack of finances in taking an active part in the future of the industry. I see a ray of hope for the nurseryman and fruit grower in the "new deal." We are past the worst and with a sympathetic administration considering our problems and helping us in the solution of these problems we are surely headed for a better, happier and more prosperous future as fruit growers and nurserymen.

A discussion of the Agricultural Adjustment Act as it would pertain to the fruit industry was led by Mr. Porter Taylor of the United States Department of Agriculture.

HOW THE AGRICULTURAL ADJUSTMENT ACT CAN BENEFIT THE FRUIT INDUSTRY

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The Agricultural Adjustment Act which became effective May 12, 1933, was specifically intended to restore the pre-war purchasing power of producers. In order to accomplish this purpose two general methods were provided. Seven basic commodities are listed in the act, including wheat, cotton, corn, hogs, rice, tobacco and milk and its products. Provisions are included by which producers of these basic commodities could agree to reduce production of such commodities by agreement with the Secretary of Agriculture. In return for such reductions benefit payments are authorized to be financed from processing taxes levied on the commodity in question. As mentioned previously, such arrangements, however, are limited to the seven basic commodities named in the act.

The Secretary of Agriculture is also authorized to enter into marketing agreements with "Processors, associations of producers, and other handlers of Agricultural products" by paragraph 2 of section 8 of the Adjustment Act. This section further provides that such agreements shall not be in violation of the Anti-Trust Laws. These agreements are not limited to any specific commodities and thus provide the machinery in the act for the handling of the problems of the commodities which are not included as basic commodities. It should also be pointed out that this section authorizes marketing agreements and not production agreements, as many believe; thus the fruit and vegetable industries are in position to develop marketing agreements although no workable method for production or acreage control of these commodities has yet been developed under the authority of the Adjustment Act.

Even more important than the authorization of marketing agreements is the authority to issue licenses which is granted to the Secretary of Agriculture by paragraph 3 of section 8 of the act. In operation this provision makes it possible for the Secretary to license non-signers of marketing agreements under a license practically identical with the provisions of the marketing agreement which has been signed by a substantial majority of the particular industry. This is especially important because in previous years voluntary agreements have been defeated by a small minority, even though an overwhelming majority of the industry might support the plan.

With the initial operation of the Agricultural Adjustment Administration a considerable number of marketing agreements were presented for con-

sideration. Most of those presented first were from the tree fruit industries of the Pacific Coast States. Agreements were developed, hearings were held, and final approval given as rapidly as possible. While the number of agreements which have been placed in operation has not been large, it must be recognized that this entire development has been made since July 1. Later agreements are being completed at a much faster rate and in a shorter period of time.

Among the agreements which have been approved are the following: California deciduous tree fruits (except apples), California Tokay grapes, Northwest tree fruits, Pacific Coast walnuts, and three agreements for the citrus industry of California and Arizona, Florida and Texas, and California canned olives and peanuts. Hearings have been held on a number of agreements including California fresh and canned asparagus, Florida strawberries, California and Arizona vegetables and melons, dates, raisins and canned sour cherries.

Among the new agreements on which hearings have been requested are Georgia and Carolina peaches, and California Gravenstein apples. Four or five agreements have been considered for each agreement finally approved. The methods which have been used have varied considerably, so as to endeavor to determine the most practical methods for securing the desired results. It will require at least the season of 1934 to determine the soundness and relative effectiveness of various methods used.

In addition to the agreements relating to fresh fruits mentioned above, the one for the California canning peach industry should be mentioned for two reasons. It first put into operation the principles of limitation of total pack, of allocation of this pack to the individual canners, of reimbursement of producers for their entire production at uniform rates much higher than had prevailed the previous year, and of uniform resale prices by the canners. The other special reason for mentioning this agreement is the fact that it has been fully supported by the Federal Court of Northern California both as to the constitutionality of the act and the principles followed by the agreement. That this agreement was successful is best evidenced by the December crop estimates which set the total value of the crop to growers at \$4,798,000 in 1933 as compared with \$1,739,000 in 1932 with an average price per ton produced of \$12.08 this year as compared with \$5.10 in 1932.

The other agreements have been consistently successful in increasing the return to the grower, which is the real purpose of all the agreements. The total shipments of Tokay grapes in 1933 slightly exceeded those of 1932 and yet netted producers at least \$500,000 more, or about \$125.00 per car on the entire volume. Because of weather conditions the crop of pears and peaches was so greatly reduced that it was not necessary to use the agreement during 1933.

The Northwest tree fruit agreement applies to nine shipping areas in four different States and includes cherries, pears, prunes, peaches and apples. This industry was highly disorganized, but a semblance of

coordination has been developed between the several districts through the operation of the agreement. The program outlined in the agreement has proved to be a more ambitious one than could be carried out in a single season. It provides for control of the quantity of fruit moved to market, the setting of minimum prices, and the regulation of supplies for export and auction markets.

Although the agreement had not been officially approved at that time, it was used in the marketing of the prune crop in 1933 and produced real returns to producers for the first time in a number of years. A minimum price program was applied in the case of winter apples and made it possible to prevent a very serious decline in prices to growers during the fall months, especially during the harvesting period. Since December it has become apparent that the total supply of box apples is smaller than was anticipated and the change in the foreign exchange situation has made it possible to export much more satisfactorily than was originally expected. Despite these two factors which were not directly related to the agreement, it is recognized by those familiar with conditions in the Northwest that the marketing agreement stabilized the industry at a time when this could have been achieved in no other way and thus has resulted in a much more satisfactory return to producers than would have been possible without the existence of the agreement.

The three citrus agreements were placed in operation during the latter part of December. This program includes three separate agreements for California and Arizona combined, Florida and Texas, with a further agreement recently submitted by Porto Rico. In the method of operation they are quite similar to the fruit and vegetable agreements discussed previously. The important feature of the citrus agreements is a uniform section in each of the three agreements which authorizes the establishment of a National Stabilization Committee for oranges and a National Stabilization Committee for grapefruit. These committees are also empowered to name a National Citrus Co-ordinator, who will act as their executive officer. The chief function of these committees will be the determination of the necessity for limitation of shipments from all citrus producing areas. When the committees deem shipments from all of the producing districts to be in excess of market requirements the committees have the power to limit total shipments from all States and to allocate the quantity to be shipped by each producing State as long as such a limitation of shipments is in effect.

The year 1933 has been one of experiment in the various methods by which results may be secured. Control of supply has been the most important used, with different forms of control depending upon the character of the commodity. In the handling of perishables, fruit has been held back from shipment by each district, shipper and producer through a system of proration, in order that each would share equally in the benefits and sacrifices necessary to make the agreement a success. By

holding shipments to market within a maximum quantity which will produce a desired price in the market, the total net return to the producer has been held as near the maximum as possible. In the case of citrus fruits, which literally "can be stored on the tree," a percentage of the total crop is assigned to each shipping unit. The percentage is then applied to the quantity, which may be shipped each week, and thus the quantity allowed each shipper is determined.

Control of shipments by grade or size is one method of reducing shipments and has been used in the Northwest fruit agreement and the Florida citrus agreement in order to hold back the less desirable grades or sizes of fruit from the market. Each of these agreements also endeavors to control the quantity sold at auction from week to week, but this method has not been tested sufficiently to determine its efficiency in compulsory operation, although it has proven very effective through voluntary co-operation. Federal inspection is also made compulsory under certain agreements.

The other method of controlling surplus in the case of non-perishables is through segregation of the surplus in the hands of a committee as in the case of walnuts.

Most of the agreements submitted for consideration are based primarily on the principle of minimum prices, frequently without any method for determining such prices on an economic basis. In a number of agreements, minimum prices have been approved either at specific rates named in the agreement or through committee action from time to time. Every effort has been made to guard against prices which were not based upon supply and demand and therefore might seriously interfere with the flow of products to market. As was anticipated, minimum prices have become maximum prices, even though a range of prices was quoted. Discounts, premiums, allowances, brokerage charges, and other similar items either must be set or carefully supervised in order to maintain the proper differentials and prevent indirect price reductions.

The agreements placed in operation in 1933 include two-thirds of the commercial crop of the country, and will be further increased by other agreements submitted for consideration, such as for the Georgia-Carolina peach industry. Strawberries and grapes appear to be likely prospects during the coming year, as there is considerable interest being shown in several producing areas.

In order to develop a successful agreement all or most of the following are required: a compact producing district which can be readily policed for enforcement purposes; a system of quantity control which will be fair and equitable to all concerned, and be readily enforced; prices based on supply and demand conditions and easily checked for enforcement purposes; a proper system of grades so that the lowest grade of product may be withheld from shipment or used for by-products to secure maximum returns for the quantity sold; and last, and by no means least,

an industry which knows how to cooperate and is willing to place the good of all above the profit of the single individual.

Mention should be made of two questions which are frequently raised in connection with marketing agreements. Producers at a distance from market inquire whether the limitation of shipments from one area distant from market may not give other competing areas an advantage over the area which might operate under a marketing agreement. If prices secured are such as to leave the producer little or nothing except the outright cash costs of marketing, then reduction of shipments will do much to increase prices and so secure a greater actual return to the producer until the maximum net income per acre is secured.

On the other hand producers who are close to market frequently raise the question as to how they can be benefitted by marketing agreements which will apply largely to shipping districts. If the crops are competitive, the increase in returns to distant producers actually works to the advantage of both producers as the one distant from market receives some net return for his product while the nearby producer will be able to sell on a higher competitive basis. Thus, if Northwestern apples sell for about \$1.20 per box in Eastern markets, the grower gets nothing for his production costs while if the average price is 40 to 50 cents higher, he secures about the average cost of production. Obviously, it would be to the advantage of the nearby producer to have as high a price level prevail as possible to permit the marketing of his own crop on the same general level.

Doubtless most of you are wondering to what extent marketing agreements under the Adjustment Act may be applied to the fruit industry of the Cumberland-Shenandoah Valleys. Your apples and peaches move to domestic markets in the Eastern and Southern States either by rail or truck, and your apples form a substantial portion of the export shipments of the country, especially to European markets. Thus, you have two entirely different marketing problems within your fruit industry.

The shipment of apples and peaches by rail would permit the operation of an agreement regulating domestic supply, even though the average haul to market is comparatively short. But when we consider the manner by which this has been supplemented in recent years with truck hauls to markets for a distance up to 200 miles, we should appreciate the difficulty of the problem of operation and enforcement of a marketing agreement. This is partly due to the truck problem itself, but even more to the fact that such trucks move in all directions from the various producing districts which make up the Shenandoah-Cumberland area. Under such conditions it is doubtful whether it would be possible to satisfactorily operate and enforce an agreement which applied to domestic sales.

But when we consider the export apple field the situation is entirely different. Most fruit is sold in the European markets on an auction basis at the time of arrival, and therefore a control of supply in line with demand should prove of real service in stabilizing of values in order to secure a greater return to producers. The adverse effect of excessive sup-

plies on auction markets is too well known to require discussion. Thus it appears that a marketing agreement providing for a control of shipments for export offers a subject for serious consideration by the apple industry of this section.

One of your first questions will be, "What would be the effect of such regulation on this district if other exporting areas do not do likewise?" The answer to that question is obvious. You would doubtless receive some benefit if you took such action alone, but, of course, would secure a greater benefit if all the exporting districts cooperated. The Northwestern agreement provides for such regulation for export and it would only require the cooperation of New York State and New England to have the entire American box supply operating under a practical, workable control which should do much to prevent severe market fluctuations.

The decision as to whether a marketing agreement is needed for your industry rests with you. If you decide at some future date in the affirmative, a committee representing all factors in the industry should be selected and given power to work out the provisions of an agreement which will operate most effectively for the benefit of the producers as a group. When such an agreement is completed, it should be presented to the Agricultural Adjustment Administration for consideration, public hearing, and final approval by the Secretary of Agriculture after a substantial percentage of the industry has signed the agreement in its final form. With the approval by the Secretary, the agreement will be placed in operation with a similar license covering all in the industry, including those who do not sign the agreement.

The initiative to secure an agreement, the development of it, and its operation will rest in the hands of the industry itself. Perhaps the success of the 1934 season will depend upon the ability of the fruit industry of the Cumberland-Shenandoah Valleys to work together and with other producing districts in a marketing program which will secure the greatest returns to producers. The opportunity for an industry program is available, but it can only be placed in operation by those who are willing to adopt it and develop it for their own particular problems. The Agricultural Adjustment Administration will be glad to assist you, but the initiative must come from within the industry.

At this point, President Carpenter called for reports of the committees.

REPORT OF COMMITTEES

The Auditing Committee reported that the books and records of the Treasurer were found to be correct. The report was adopted.

The Nominating Committee reported the following nomination of officers for 1934:

President, W. Earle Withgott, Easton; first vice-president, Raymond Hanson, Ellicott City; second vice-president, Fulton Allen, Salisbury; secretary-treasurer, A. F. Vierheller, College Park.

Executive Committee

A. L. Towson, Smithburg; G. Rust Canby, Silver Spring; Joseph Harrison, Berlin; W. H. Long, Carrollton; W. Lee Allen, Salisbury; E. C. Auchter, College Park; Lloyd Balderston, Colora; G. S. L. Carpenter, Hagerstown; J. H. Beaumont, College Park; C. E. Bryan, Havre de Grace.

Mr. Henry C. Whiteford, Whiteford, Maryland, was reappointed as representative of the Horticultural Society in the Maryland Agricultural Society and the Farm Bureau Federation.

The Resolutions Committee presented resolutions as follows:

We, the members of the Maryland State Horticultural Society, recognize that the Civil Works Administration, through many of its projects has done a great deal to relieve distress among the unemployed. However, we feel that a wage rate on relief work so high as to attract labor from legitimate jobs is not proper and is fair neither to those employed at less rates on work, which must justify the expense involved, nor to their employers, nor to the taxpayers who must in the end repay this money.

Furthermore, we know that our industry, which for several years has been almost a profitless industry, and which the National Government is now trying to assist by production loans and in other ways, cannot continue to exist if wage scales anywhere near CWA wages have to be maintained; therefore be it

Resolved, That we go on record as favoring a continuance of the CWA relief work only if wage scales in various localities and on various kinds of work are adjusted so that the workers therein will be encouraged to seek permanent employment in legitimate industry rather than to leave permanent jobs to seek public relief work on CWA projects; and be it further

Resolved, That we ask our United States Senators and Representatives to oppose the appropriation of additional funds for CWA projects unless some assurance is given that a fairer chance will be afforded the fruit growers to stop the drain of both experienced men and common labor from the orchards to the public relief projects, by the establishment of wage rates which the fruit grower has some chance of meeting; be it further

Resolved, That a copy of these resolutions be sent to the President of the United States, the Secretary of Agriculture, the Civil Works Administrator, and the United States Senators and Representatives from Maryland.

This resolution was adopted after a very short discussion.

We approve and commend the efforts of the Director of the Budget and others to check to some extent the tremendous outpouring of taxpayer's money now going on at Washington.

Nevertheless, we feel that the relatively small amount used in support of our Land Grant Colleges yields very great dividends in the permanent

relief and development of agriculture, as great or greater than similar amounts appropriated for any other purpose; therefore be it

Resolved, That we go on record as opposing any curtailment of funds for support of these institutions; and be it further

Resolved, That we send a copy of these resolutions to the Director of the Budget, and to our United States Senators and Representatives from this State asking that they use their influence to prevent such curtailment.

This resolution was discussed at considerable length and was finally referred to the Executive Committee for later action on the grounds that if too many resolutions were sent to Congressmen at one time the effect of any one resolution would be weakened. The general sentiment of this resolution was approved.

WHEREAS, the advisability of holding our annual meeting in the Horticultural Building at College Park, has been clearly demonstrated by the large commercial exhibit, by the spraying, washing and grading demonstrations, by the splendid educational and fruit exhibit prepared by the Horticultural Staff of the University of Maryland, and by the unusually large attendance of our Maryland growers as well as those from all of our adjoining States; we therefore

Recommend to our Executive Committee the adoption of the Horticultural Building at College Park as a permanent meeting place. Also, in order to avoid conflicting dates with neighboring horticultural societies and to facilitate the securing of authoritative speakers for our programs, we recommend the adoption of the first week of January as a permanent meeting time.

This resolution passed unanimously without discussion.

Thanks are due to those responsible for one of the most interesting and profitable meetings in the history of this Society; therefore be it

Resolved, That we extend our thanks to the College authorities, and to the members of the Extension Service and Experiment Station for helpful cooperation;

To the officers of our Society for the arrangement of an unusually fine program, and especially to Dr. J. H. Beaumont and the other members of the Horticultural Staff for their efforts in connection with commercial exhibits and demonstrations, educational exhibits and the perfection of all arrangements for our comfort and convenience.

This resolution was adopted unanimously by a rising vote.

THURSDAY—JANUARY 4

2.00 P. M.

President Carpenter introduced Mr. S. M. Garwood of the United States Farm Credit Administration.

SECURING FUNDS THROUGH THE PRODUCTION CREDIT ASSOCIATIONS

S. M. GARWOOD,
Production Credit Commissioner,
Farm Credit Administration,
Washington, D. C.

Under the provisions of the Farm Credit Act of 1933, the Governor of the Farm Credit Administration is authorized and directed to organize and charter twelve production credit corporations, one to be located in each of the cities in which the twelve Federal land banks are located. The directors of the Federal land bank are to be directors ex-officio of the production credit corporation.

Upon request of the directors of each of the Federal land banks, the Governor of the Farm Credit Administration has chartered a production credit corporation to serve their respective land bank districts. The Governor has also subscribed, on behalf of the United States Government, an initial capital of \$7,500,000 for each corporation.

The corporation chartered for this district is located in Baltimore. Its capital has been paid in and it is now operating, serving the States of Pennsylvania, West Virginia, Virginia, Delaware and Maryland.

As the Production Credit Corporation of Baltimore serves five States, it was necessary to pro rate equitably the \$7,500,000 to each State and then to each county. This was done primarily by determining the total value of the agricultural products, including livestock, of each of the five States; and ascertaining the percentage of the amount for each State as compared to the total of the five States, and applying that percentage to the \$7,500,000 initial capital, thereby arriving at the allotment of capital for each State. When the State allotment was determined, the allotment for each county was arrived at on the same principle applied in allocating funds for the States.

This method of allotment does not mean that there will be an association for each county, but does assure that each county will have adequate production credit. For the time being, there will be from three to five

counties served by one association. It is necessary that more than one county be included at present for two reasons: (1) These associations must be organized and ready to make loans by early spring; and (2) each association must have sufficient territory to assure, as far as possible, sufficient business to afford good management. If, later, experience shows that a county can support an association, we will, upon request of the borrowers of that county, charter an association to serve that particular county.

Experience has shown that generally, an association should have an annual volume of business of approximately \$250,000 to support full-time competent management. In cases of specialized associations, such as fruit, an association should have a larger volume of business than one making general purpose loans as it needs specialized management, and also sufficient capital to take care of large loans. Except in special cases, a loan to an individual should be limited to 20 per cent of the paid-in capital of the association; and as fruit loans are most hazardous, as well as substantial in amount, an association must have sufficient capital to take care of large loans and not exceed the 20 per cent limit. Earnings must be sufficient to take care of losses. It is expected that an association will discount five times its paid-in capital.

The Production Credit Corporation of Baltimore does not make loans to farmers, but assists in capitalizing, and supervises production credit associations. Production credit associations make loans to farmers for general agricultural purposes, principally for production purposes, including the feeding, breeding and raising of livestock. Loans are generally secured by chattel mortgages and crop liens. The proceeds of all loans are disbursed on a budget basis.

To be an eligible borrower, one must be a farmer. The term "farmer" includes a natural person, partnership, or corporation engaged in the business of farming or of breeding, raising, or fattening livestock.

A natural person must devote certain time and energy to the active management of the farming or livestock operations. The enterprise must be conducted in such a manner that he reaps the benefits of the operation if it is successful, and suffers the loss if it is a failure. Where a landlord is entitled only to a fixed return without regard to the success or failure of the farming operations, or where he does not rightfully exercise substantial direction and control in the management of such operations, the tenant, and not the landlord, is considered the "farmer."

A partnership is governed by the same principles as those governing the eligibility of natural persons.

A corporation to be considered a "farmer" must be principally engaged in farming or livestock operations. The major portion of its assets must be represented by property actually devoted to farming or livestock operations. At least half of its gross income must be derived from such

operations, and at least half the time of its active officers must be spent in the conduct of such business.

To organize a production credit association, it is necessary that a minimum of ten farmers eligible to become borrowers make application through the production credit corporation to the Governor of the Farm Credit Administration for a charter. If the territory in which the farmers reside is already served by an association, of course, another charter will not be granted unless the territory is sufficiently large to serve two or more associations. Two general associations, however, cannot serve the same territory.

A charter, when granted, fixes the capital of the association and the territory it is to serve. Upon request of ten eligible farmers for a charter, the production credit corporation immediately sends its representative to meet with the ten applicants and suggest to them the territory to be served and the amount of capital needed; also, that a meeting be called of all farmers in the territory to be served so that every farmer will understand just what is being done.

When the charter is returned to the production credit corporation one of the corporation's representatives notifies the original signers so that they may call a meeting to complete the organization. At this meeting a board of directors is elected, by-laws are adopted, and officers are selected to serve until the next annual meeting.

As soon as the organization is complete the board of directors requests the production credit corporation to subscribe for their Class A stock and to pay in a percentage of the subscription at once, the balance as needed. This is done, and the proceeds are invested in Government bonds and placed with the Federal intermediate credit bank, which immediately gives the association a line of credit of five times the amount of the bonds pledged to them.

The production credit corporation furnishes the production credit association with rules and regulations and all books and forms necessary in the conduct of its business. The association is then ready to make loans to farmers.

A farmer that desires a loan obtains an application blank that is furnished by the association. This he fills out completely, particularly that part that sets out his budget as to how he wants the funds paid to him; also a budget as to how he expects to repay the loan. These applications must be filled out completely.

No doubt the borrower will call the application "Red Tape," but please keep in mind that your association is new; it has no credit file; also, that to extend credit on a sound basis it must have a complete picture of the farming operations. As all of the notes are to be discounted with the Federal intermediate credit bank, which in turn puts them up with a registrar and issues debentures against them, it is necessary that we

have a written statement of the financial condition of the farmer, as it would be impossible to give by word of mouth the information given the secretary-treasurer by the farmer.

When your application is received by your association, it is submitted to your loan committee. Remember, this committee has been chosen by the directors whom you, as borrowers, and as Class B stockholders, have elected. If approved by the loan committee an inspection is made by an inspector of the association. If your loan is approved, you pay for this inspection at cost. The actual cost of making the inspection is limited to a minimum of \$2 and a maximum of 1 per cent per annum of the amount you borrow. When the loan has been granted, the proceeds will be disbursed on a budget plan as funds are needed. If the amount of the loan is under \$2,000, borrowers must subscribe and pay 5 per cent of the total commitment in Class B stock; if in excess of \$2,000, and less than \$5,000, the Class B stock subscription will be paid in two installments, the first disbursement to pay for a minimum of \$100 par value. In loans over \$5,000 the borrower makes an initial purchase of a minimum amount of \$100 of Class B stock on first disbursement and 5 per cent of each disbursement thereafter. The 5 per cent necessary to purchase Class B stock can be added to the loan.

The note signed by the borrower, and secured by the chattel mortgage, bears interest from date; and the interest charged the borrower by his association cannot exceed by more than 3 per cent the interest rate charged his association by the Federal intermediate credit bank. At present the rate to the farmer is 6 per cent. You can, therefore, appreciate the necessity for making sound loans, for unless the security behind these loans is sound and of a self-liquidating nature, the intermediate credit bank debentures will not sell at such low interest rates, thus forcing the farmer to pay higher interest rates. The line, therefore, must be drawn between sound production financing and emergency loans. Debentures cannot be sold against inadequately secured emergency loans.

Borrowers must pay all filing and recording fees.

The difference in the interest rate charged the association by the Federal intermediate credit bank and the rate charged the borrower (3 per cent) constitutes the major part of your association's income. The other income is from the invested capital, which at present represents securities with a yield of approximately 3 per cent per annum. Out of this gross income, expenses must be paid; next a surplus created to take care of bad and doubtful accounts; next a guarantee fund created, equal to 25 per cent of your paid-in capital. When this has been accomplished the association may pay a dividend not to exceed 7 per cent. You have an investment in your association equal to 5 per cent of the maximum amount you owe your association. This investment is in the form of Class B stock, which entitles you to one vote, as each Class B stockholder is entitled only to one vote regardless of the number of shares of stock

owned. You cannot use this B stock to pay your loan. If that were done, the corporation or A stock would get the profits, leaving the borrowers without accumulation of profits with which to purchase the A stock and own their own association. You may sell your B stock to another eligible borrower, but only at the value fixed by the production credit corporation, and with the consent of the directors of your association. If you do not borrow for two years, you must transfer your B stock to A stock, as we do not believe you should have a voice in the management if you are not a borrower. Class A stock is preferred only in case of liquidation. Class B stock cannot be transferred by act of parties or operation of law.

The Governor of the Farm Credit Administration has received an application from the fruit growers of this district to charter the East-Central Fruit Growers' Production Credit Association, this association to serve all fruit growers in the Second District. This charter has been granted. The association has a capital of \$500,000. It is my understanding that the fruit growers have requested that the office of the association be located in Baltimore. The Production Credit Corporation of Baltimore will subscribe for all of the Class A stock and will pay in immediately, about \$150,000, and will continue to pay in sufficient capital, to take care of the credit needs of the borrowers of the association. The East-Central Fruit Growers' Production Credit Association will receive the income from the invested capital, 3 per cent, or approximately \$15,000, plus the 3 per cent spread on its loans; and if it loans its maximum—five times its capital—its gross income will be approximately \$90,000 each year. If only sound loans are made and the association is conservatively managed, it is hoped that earnings will be sufficient to retire the Class A stock. Then the association will be owned by the borrowers.

In conclusion, there will shortly be available to the fruit growers of this district \$2,500,000 for production purposes. This amount can and will be increased when and if needed. I suggest that each of you make your application as soon as possible so that funds will be available when needed. We have perfected and will continue to perfect our organization so that loans can be made promptly and with a minimum of red tape.

I thank you for this opportunity of explaining to you how your association will operate.

Mr. C. E. Bryan was presented to discuss the adjustment of orchard practices.

ADJUSTING ORCHARD PRACTICES TO MEET PRESENT CONDITIONS

C. E. BRYAN

Fruit Grower

Havre de Grace, Maryland

If anything I shall have to say is worth while, it will probably be because it provokes a reply from some of you—perhaps in disagreement. If that, in turn, leads to discussion of specific points, and stimulates thought, so much the better. I shall, therefore, try to be brief, hoping that in the discussion to follow, something concrete, and really worth while, may develop.

As I see it, the problems confronting fruit growers now are, basically and generally speaking, pretty much the same problems we have at any time. The main difference is, that present economic conditions have so accentuated and exaggerated these problems, that we have got to come somewhere near solving them, or go broke. When things were booming, and returns were larger than our skill and energy and foresight justified, we got by, sometimes pretty handsomely. But we might as well realize that we have lived in an age, and a country, which made success comparatively easy. By the same token we are foolish if we delude ourselves by thinking the good old times are to return soon—if ever. If we succeed in the future, it will be because we have shown a comprehension of the economic situation, a real grasp of our business (which is also a profession) and the ability to run that business efficiently.

The factors to be considered in adjusting our practices to present conditions, or indeed, to conditions at any time, may be grouped under three principal heads:

1. Adjustment of supply to demand.
2. Efficiency and economy of operation.
3. Merchandizing methods.

I shall touch briefly on some of the questions involved under each of these heads.

Obviously, one way to bring about a satisfactory ratio between supply and demand, is to increase the demand. Perhaps nothing would hearten us more than the prospect of increased foreign sales, and until recently many of us hoped that reciprocal tariff agreements, and general betterment of international trade conditions would enlarge the foreign demand for our fruit. The present administration has, however, embarked on a nationalistic regime, which leaves little hope in that direction.

We are left, then, with practically nothing to work with, but the domestic demand, which appears considerably less than the average normal supply. We can probably do something, through advertising and propaganda to

make our people more apple-minded. But I believe before we spend too much energy and money in that direction, our first job is to put on the market a finer product. If you will look at the fruit generally offered for sale, and compare the appearance of our apples and peaches, with the perfect, carefully packed fruit of all kinds from the West Coast, you will wonder why we have not lost a larger proportion of the trade than we have.

The other way of adjusting supply to demand, is to reduce the supply. The Government has not yet done anything to reduce our acreage, and for various reasons probably will not do so. Most of us would prefer to work out our own salvation, anyway. But we can, and should, do in an effective and intelligent way, the same thing. We have been told to eliminate marginal plantings and undesirable varieties. We have been told to cut down our acreage to the point where our resources will permit us to give entirely adequate care; and above all, to keep poor fruit off the market. Have we consistently and conscientiously gone about doing these things? I am afraid not. Until we do, we have no right to expect our business to prosper.

The second heading to be considered was efficiency and economy of production. It would be better to say simply, efficiency in production. Efficiency surely includes true economy. Economy, however, may be misunderstood as meaning merely a saving in expense but a saving in essential costs may be ruinously poor economy.

Take the matter of spraying. We all know that saving which results in a poor job, may mean that the money spent is thrown away. I think our experience last season was illuminating. We were all hard up, and our technical friends tried to help us out by suggesting more economical spray schedules. Atmospheric conditions were bad, and as a result, the apple and peach crops in this general section showed pretty poor quality. Fortunately for me, I got cold feet on the economy schedule, and made up my mind to go the whole hog, if I went broke. I didn't go broke, I made a profit, in spite of the storm which took a third of my crop. I attribute my good fortune largely to adequate spraying. As I see it, any grower not willing, or able, to go the limit in spraying, had better try some other game.

When it comes to soil cultivation, saving for a season or two may not do any great harm, and in some cases may be a blessing in disguise. Some of us have practiced clean cultivation, with inadequate cover crops, so long, that our orchard soils are in poor physical condition, with low water-holding capacity. It will probably be economically and otherwise desirable, to leave our apple orchards in legumes for a couple of seasons, or even in a good crop of weeds, to be disked down each season.

On the other hand, I very much doubt if we can afford to neglect pruning for even one year. Proper pruning not only maintains the necessary annual production of bearing wood, but also does part of the essential work of crop thinning. Moreover it is required if we are to do an effective job of spraying, and if we are to produce well-colored fruit.

I was talking last summer with a larger Pennsylvania grower about his fine cold-storage plant. He told me he placed his apples in storage as they were picked, and packed them during the winter. I remarked that we were too busy pruning during the winter to spend much time packing and he replied he was doing little or no pruning. I think our respective crops this autumn gave the answer.

When we come to grading and packing methods, we are up against the necessity of doing a better job than ever. Don't forget that when everyone feels flush, the demand may be so great that even ordinary fruit poorly packed may pad a sale, while under present conditions with only the choicest product, properly packed, can we hope to get back the cost. But, of course, here as elsewhere the capable grower can so organize his work as to effect real economies.

This is a machine age, and even in fruit growing, machinery plays a large and necessary part. How many of us get the best work out of our machines—the most out of every dollar spent in purchase, maintenance, and operation of our machines? Once more, it is not so much a question of how much money you spend as what you get for it, in the way of useful work accomplished.

Similarly with labor, the poorest paid is often the most expensive. In hardly another industry is the owner more dependent on intelligent, loyal help. I believe we should do our utmost to obtain and develop labor of that sort.

Now, before closing, a word as to merchandizing methods. Granting that our first job is to produce fine fruit, well-graded and packed, as that is the only kind, which will sell at a profit, we still have the marketing problem. And that problem is obviously much more difficult under present economic conditions.

In the case of apples, there is always the question as to whether we shall sell at packing time, or store. Personally, I feel the grower is out of his bailiwick, when he stores. Few growers can be sufficiently informed as to existing and probable market conditions, to know the best time to sell. Even the professionals and speculators make bad guesses, and it is their game. It is asking too much of human nature to expect your distributor to work or think as hard over your fruit, as if he owned it himself. But if you have sold your fruit at harvest time, every buyer becomes a high pressure salesman.

There has been a good deal of talk about chain stores. We all know they can be a demoralizing influence in the perishable trade, and they are hard customers to deal with. In many places they almost control the market, however, and whether we like it or not, most of us will find that a large part of our product is going to reach the consumer through a chain store. That being the case, it behooves us to study the chain stores' problems, as they affect us, to the end that we can better meet their needs and requirements, with more profit to ourselves.

In a survey of seven leading fruits and vegetables in New York City, conducted by the Department of Agriculture in 1923-24 (Bulletin 1411) it was shown that a given quantity of goods, amounting to an average retail sale, and costing 14 cents at wholesale, retailed for 20.8 cents through chain stores, 23.8 cents through independent cash-and-carry stores, and 26.8 cents through unit delivery stores. This means that terminal expense absorbed 32.7 per cent of the consumer's dollar in the case of chain stores, as against 47.8 per cent through independent credit delivery stores.

It would appear then, that the lower operating margin of the chain store permits a lower retail price, without reducing the wholesale price, which, in turn should increase the aggregate returns to the producer, through increased consumption brought about by a lower retail selling price. Obviously, any method of distribution which gives the producer a larger proportion of the consumer's dollar is to be desired.

Another question often discussed is the matter of sales to truckers or hucksters. And here again, we are confronted by a condition, and not a theory. Instead of letting out a mighty yell that no fruit grower should sell to truckers (while perhaps making a little exception in our own case), why not frankly recognize that there *are* truckers, who will buy apples and peaches, and *sell* them? Every man must decide for himself to whom, and how he shall sell. The really important rule is not to sell in such a way as to cause harm, now or in the future, to himself or other growers. I suggest two general rules which should be honestly lived up to:

1st. No off-grade fruit should ever be sold to a trucker in a standard package just because he will buy it.

2nd. No bulk fruit below standard grades should be sold to anyone but a cider factory if it contains anything more than skin blemishes. There is much fruit poor in color, or with skin blemishes, which, except for appearance, is sound, honest, useful. There seems to me no reason why such fruit should not reach a large class of consumers who cannot afford to pay for properly graded, packed fruit. The trucker is probably the most economical means of distributing that part of our crop.

In discussing merchandising methods, the question of F. O. B. Sales vs. Consignment is bound to come up. Of course, it would be foolish to take an arbitrary stand, one way or the other. There may be times when we are obliged to resort to consignment, and there are certain conditions, as with a highly perishable crop like peaches, where consignment is the only practical sales method. But I think we are on relatively safe ground when we say we should make f. o. b. sales whenever practicable, and adopt that method as our fixed policy. Without going into the economics of the question, or the ethics of the trade (often conspicuous by their absence), I am convinced the grower should use his best efforts to effect f. o. b. sales, either direct, or through a reliable broker. We might as well realize, however, that there is a serious catch to this f. o. b. business. It requires high standards, rigidly adhered to. The grower who sells

f. o. b. must himself be certain that every package of his fruit will stand the test from top to bottom. Then, if he deals only with firms of high rating, he has nothing to fear, and he will find he is building a reputation for his "mark" which will prove to be one of his most valuable assets.

REPORT
OF THE
Twenty-seventh Annual Meeting
OF THE
Maryland Crop Improvement
Association
January 9-11, 1934
Baltimore, Maryland

The twenty-seventh annual meeting of the Maryland Crop Improvement Association, together with the Annual State Corn Show, was held in the Lord Baltimore Hotel, Baltimore, on January 9-10-11, 1934.

The following is the program presented at the meetings:

PROGRAM OF THE MARYLAND CROP IMPROVEMENT
ASSOCIATION

Wednesday, January 10, 1934
10.00 A. M.

- I. Call to order by Daniel Pearce, Sparks, Md., President of the Maryland Crop Improvement Association.
- II. "The Use of Contracted Wheat Acres." By Paul E. Nystrom, Extension Economist, University of Maryland Extension Service.
- III. "The Alfalfa Soils of Maryland." By Professor J. E. Metzger, University of Maryland Experiment Station.
- IV. "The Improvement of Hay in Maryland." By Professor Geary Eppley, University of Maryland Experiment Station.
- V. Committee appointments.

Thursday, January 11, 1934
10.00 A. M.

- I. Call to order by the president.
- II. "How to Calculate Field Areas." By Ray W. Carpenter, University of Maryland.
- III. "The Lespedezas in Maryland." By F. W. Oldenburg, University of Maryland Extension Service.
- IV. Committee reports and election of officers.

THE USE OF CONTRACTED WHEAT ACRES

By PAUL E. NYSTROM
Extension Economist
University of Maryland

This subject is of particular interest to the Maryland Crop Improvement Association at this time for two principal reasons. First, there is the immediate problem of what to do this coming year with the land to be kept out of wheat in connection with acreage control contracts; and, second, there is the long-time problem of land use in Maryland. I shall outline briefly both of these phases of the subject as well as summarize the results of the wheat production control program.

The Wheat Campaign

The campaign to reduce wheat acreage by voluntary contracts of individual farmers apparently was only partially successful for the United States as a whole.

By the terms of the International Wheat Agreement signed last summer by leading world nations, the United States has agreed to decrease its wheat production by 15 per cent. At the present moment the prospect for the United States is for a reduction of less than 10 per cent of the acreage.

In the winter wheat area, the anticipated reduction over 1933, according to estimates of the United States Department of Agriculture, is 4 per cent, with the reduction over the 1930-32 average about $7\frac{1}{2}$ per cent. In the spring wheat area the estimate at this time is for a 10 per cent reduction. It is not known as yet what abandonment of wheat acreage there may be nor what Mother Nature may do to the 1934 wheat crop. But, apparently there has not been a sufficient acreage reduction assured to enable the United States to live up to the terms of the International Wheat Agreement. It may be necessary in the near future to open the wheat campaign again.

In Maryland there were obtained 8,000 wheat contracts representing 66 per cent of the 1930-32 acreage. Checks for the first benefit payment issued in Maryland to date have aggregated nearly \$500,000.

For the United States as a whole the first benefit payment will aggregate \$60,000,000 and the first two payments will amount to \$107,000,000.

We can hardly expect to remove the wheat surplus. If Mother Nature assures us a normal crop of wheat, we can expect a carry over of nearly 300,000,000 bushels, with the prospect of a market in Europe of not more than 45,000,000 bushels.

Thus, 85 per cent of the program is still before us. We must obtain, if possible, a greater reduction of acreage and we must make certain that farmers now under contract will live up to their agreements. This will

necessitate an inspection in the spring of each farm under contract to determine the acreage seeded to wheat and the use of the contracted acreage.

Use of Contracted Wheat Acres in 1934

It is intended in the Government program to retire from production 50,000,000 acres or approximately one-seventh of the farming land. For this purpose rental payments are made actually to *retire the land from use*, for the period of the contract. It is recognized that this is an emergency program pending the development of a long-time program of land use.

Seven approved practices were adopted on August 22, 1933, for using the contracted acres, as follows:

1. Permit ground to be unplanted.
2. Practice summer fallowing.
3. Plant to permanent pasture.
4. Plant to meadow crops.
5. Practice weed control.
6. Plant forest trees.
7. Plant soil improvement crops.

These supplement the terms of the contract itself which also provides that crops may be grown for home consumption. The latter provision has been modified by Regulation No. 26, to prevent the growing of crops on contracted acres for home consumption or use if that *releases other land* for production of crops for sale.

Crops may be grown for home use only if:

1. *Definite proof* can be given that crops had not previously been grown for home use.
2. *Definite proof* can be given that no part of those crops are sold directly or indirectly.
3. *Definite proof* can be given that there is a shortage of feed due to *hurricane damage*.

The burden of proof will be upon the farmer and it is recommended that in so far as possible the approved practices be followed.

The following practices are recommended for Maryland:

1. For the contracted acres, select any field on the farm which is of average fertility and which at some time in the rotation is seeded to wheat.
2. Let the land lie unplanted and control the weeds.
3. Let the land lie in sod in last year's hay or pasture field. Do not pasture or cut for hay in 1934.
4. Plant any soil improvement crop for plowing under, but not for harvest.
5. Plant perennial grasses for hay or pasture in 1935. If seeded *without* a nurse crop, the land may be grazed in 1934 but not cut for hay. If seeded *with* a nurse crop, clip the nurse crop but *do not use it for hay*. In 1935 select another field for the contracted acres.
6. Plant forest trees for windbreak, fence posts or other farm use.
7. Stake the boundaries of the contracted acres so there will be no mistake in the acreage when the inspection is made.

If any uses are planned except as above, the farmer is urged to come

in to the county agent's office to talk it over before making a final decision.

The following should not be attempted under any circumstances:

1. Grains of any kind, except to be plowed down.
2. *Annual* hay crops.
3. Any crop for sale.

A rigid inspection will be made in the spring to ascertain the compliance of each farmer with his contract. Maryland farmers are urged to comply with the spirit of the contract as well as its terms in order that payment of future benefits may not be jeopardized.

Long Time Use of Contracted Acreage

One of the primary needs in Maryland in connection with land use, is a more economical production of feed.

A Government program to reduce the acreage of grain crops will result in a rise in feed prices to the relative disadvantage of farmers producing livestock products.

Data in the accompanying table indicate that the feeding advantage enjoyed by Maryland livestock and poultry producers for a number of years is now gone. The price spread between prices of livestock products and prices of feed has been taken up.

TABLE I.

INDEX NUMBERS OF FARM PRICES OF GRAINS, DAIRY PRODUCTS
AND POULTRY PRODUCTS,* 1920 TO DATE

Pre-War=100			
Index Numbers of Farm Prices			
Year	Grains	Dairy Products	Poultry Products
1920	231	188	222
1922	105	134	139
1924	129	134	147
1926	129	136	156
1928	130	140	150
1930	100	123	126
1932	44	70	80
1933	.....	.....	.....
Jan.	34	68	96
Feb.	34	62	57
Mar.	36	59	54
Apr.	47	59	56
May	62	63	62
June	63	65	55
July	94	71	67
Aug.	81	72	67
Sept.	78	76	77
Oct.	68	78	94
Nov.	74	78	105
Dec.	73	76	95

*The Agricultural Situation, Volume 18, No. 1.

In the summer months of 1933 prices of grain had advanced higher than prices of livestock products. In view of the efforts to increase grain prices livestock feeders can expect relatively high feed prices for some time to come.

This makes necessary in Maryland an adjustment in feed production. The old feeding ratio of one pound of grain to three and a half pounds of milk seems doomed.

To compete with other milk producing areas, we need an expansion in the production of leguminous hay and pastures.

Data in the accompanying Table II indicate that other principal dairy States are feeding a much higher percentage of hay or a higher quality hay than is Maryland.

TABLE II.

PERCENTAGE DISTRIBUTION OF GROSS VALUE OF PRINCIPAL
FEED CROPS IN CERTAIN STATES, 1929.*

State	Corn	Oats	Barley	Hay	Total
Iowa	66.7	17.7	1.8	13.8	100
Illinois	65.5	16.2	1.9	16.4	100
Virginia	64.8	3.5	.7	31.0	100
Maryland	65.1	2.9	1.3	30.7	100
Wisconsin	32.8	18.8	7.2	41.2	100
Michigan	28.4	18.6	3.7	49.3	100
New York	18.5	12.1	2.4	67.0	100
Pennsylvania	37.2	13.7	5.7	43.4	100

*Estimates by the United States Department of Agriculture, Bureau of Agricultural Economics.

It is recognized, of course, that some of these States, particularly New York and Wisconsin, are better able to produce hay than we are. Nevertheless, we recognize the need for a more economical feed in order to produce cheaper milk.

The Beltsville Experiment Station reports that, in a feeding experiment, dairy cows on a full alfalfa hay ration produced 70 per cent as much milk as was produced on a full grain and hay ration.

In the wheat acreage control program, as well as in future control programs soon to be offered, there is presented a wonderful opportunity to push a program for increasing the acreage of leguminous hay and pasture crops. These crops are permitted to be seeded on the contracted acres.

The United States Department of Agriculture is encouraging a shift from acreage of grains to acreage of hay and pasture. Such a shift is desirable in Maryland and is emphasized by the Maryland Extension Service.

I trust that the Maryland Crop Improvement Association will endorse that program and lend its full cooperation.

THE ALFALFA SOILS OF MARYLAND

By PROFESSOR J. E. METZGER
University of Maryland

Alfalfa is essentially a semi-humid or semi-dry land crop. In humid climates, such as we have in Maryland, the crop is especially intolerant of adverse conditions. For this reason not all soil series and types in Maryland are well adapted to the production of this important hay crop. Through the means of the soil survey and more recently by the grouping and classification of the soils of the State according to their relative productiveness, it is now possible to separate definitely the types of soil on which the crop may reasonably be expected to succeed.

The essential soil conditions necessary for successful crops may be grouped under four headings. First, the surface soil must be relatively deep; second, both the surface soil and sub-soil must be capable of permitting good drainage; third, the soil must be high or at least reasonably high in fertility; and fourth, the reaction of the soil must be neutral or nearly neutral.

All of the acres listed in the table which follows meet at least the first two of these requirements to a satisfactory degree. Group one soils should completely satisfy all the requirements with the possible exception of the fertility level and the reaction of the soil, both of which may be corrected readily enough. The second group differs from the first largely in the matter of depth of soil and exposure to erosion due to topography or to location with respect to being subject to overflow during heavy rain storms. The difference between the two groups is significant, but not so great as to exclude the second group, especially if a combination of alfalfa and alsike clover is used.

Alfalfa is perhaps the most sensitive farm crop that could be selected for the formation of land groupings such as are given in this table. It will be noted that almost exactly one-third of the total land area of the State may be classified as Grade 1 for the production of alfalfa. Any soil that is sufficiently deep and well drained for successful production of alfalfa may be regarded as first grade land for practically all other crops that may be grown in this climate.

TABLE I

CLASSIFICATION OF MARYLAND SOILS ON THE BASIS OF THEIR ADAPTABILITY FOR THE PRODUCTION OF ALFALFA

Counties	Total land area, acres	Area suitable for alfalfa, acres	
		Group I	Group II
State	6,295,744	2,097,536	1,406,680
Allegany	264,960	42,368	27,584
Anne Arundel	268,160	56,320	64,704
Baltimore	423,104	289,408	54,592
Calvert	139,520	20,992	82,496
Caroline	204,160	67,136	.....
Carroll	286,080	114,496	122,496
Cecil	227,200	135,232	34,432
Charles	296,960	31,872	110,528
Dorchester	368,640	42,304	.....
Frederick	424,320	125,632	151,360
Garrett	427,520	.....	365,184
Harford	282,880	206,464	18,560
Howard	161,920	86,272	53,824
Kent	180,480	86,528	27,712
Montgomery	309,760	163,584	91,008
Prince George's	310,400	175,424	4,544
Queen Anne's	241,280	96,704	26,880
St. Mary's	237,440	111,232	4,608
Somerset	216,960	9,664	11,328
Talbot	171,520	52,160	21,696
Washington	293,760	154,368	88,064
Wicomico	241,920	21,504	.....
Worcester	316,800	7,872	44,544

Note.—The acreages given in this table are summarized from Maryland Experiment Station Bulletin No. 351, "The Soils of Maryland, A Productivity Classification."

It is rather significant that the total alfalfa acreage in Maryland is approximately only 30,000 acres, whereas it would be possible without a prohibitive outlay of capital to have at least 100,000 acres of our land planted to this crop. The total land devoted to hay in Maryland is approximately 375,000 acres. This figure corresponds very closely also to the number of tons of hay produced in the State. The latest livestock figures indicate that Maryland produces sufficient tons of hay to meet all of the requirements for its livestock. But the fact remains that there is purchased every year a considerable tonnage of alfalfa and clovers, indicating that there is an actual shortage of the better kind of hay. It would seem from this that the future trend in the State should be directed more toward devoting our acres to hay of better quality rather than bringing more of our land into hay production. The Federal Crop Control measures apparently do not have any restriction which would conflict with a policy of this type.

If the soils which constitute group two in this list were brought into alfalfa production also, it would mean that nearly one-half of our total land area could within a complete rotation be used for the production of alfalfa hay or mixed hay in which alfalfa is the principal plant ingredient. The acres of land listed in column two are less desirable for alfalfa production, largely because of their shallowness and topography, and, generally speaking, somewhat lower fertility level. Within group two as well as in group one there are small areas included which are not sufficiently well drained or in which the soil is not sufficiently deep to permit production of first class crops of alfalfa. On farms where there is this variability in the soil it would be a much safer farm practice to use some alsike clover with the alfalfa. Usually, a seeding consisting of 12 pounds of alfalfa and about 4 to 5 pounds of alsike clover will produce a much more abundant hay crop at the first cutting than would either one of these crops if seeded alone. Most of the alsike clover disappears after the first cutting, leaving generally a sufficiently thick stand of alfalfa to warrant continuing it for the length of the rotation.

In order to better identify the soil areas of these groups and for convenience in locating them in the State may be divided into three major geological regions. The best alfalfa soils in the Appalachian Plateau and valley counties are the Hagerstown loams and clay loams, the Franks-town silt loams and gravelly loams, the Holston silt loam, the loam and silt loam types of the Pope, Elk, and Ashe series, and the Westmoreland and Porters silt loam. The principal group two soils of this region are the Moshannon and Huntington loams, the Dekalb and Meigs silt loams, and the Dekalb, Upshur, Berks and Ashe gravelly loams, and also the Pope fine sandy loam.

In the Piedmont area the best alfalfa soils are the Hagerstown, Chester, Manor and Montalto loams and silt loams. The second best soils are the Congaree, Bermudian, Penn and Huntington silt loams, the Louisa and Mechlenberg loams and the Chester and Manor gravelly loams. In this group also will be found the Manor loam of the micaceous kind.

On the Coastal Plains under normal conditions there are only two distinct series of soil from the standpoint of the production of alfalfa. Either the soils are well drained or they are poorly drained. Of the soils that are sufficiently well drained, but not too porous for the best production of alfalfa, are the Collington fine sandy loam, silt loam and loam, the Sassafras loam, silt loam, fine sandy loam, and very fine sandy loam, and the Sassafras gravelly loam. The group two soils in this region are almost entirely the rolling phases of the Collington and Sassafras types just named.

Many of the other soils of the Coastal Plains, such as Keyport, Elkton and some of the coarser types of the Portsmouth and Leonardtown could readily be used for the production of the alfalfa crop if artificial drainage

were provided for them. Likewise in the Piedmont region there is a group of soils, such as the Congaree and Huntington, that could be made the very best alfalfa soils in the State by merely providing protection from overflow. They are normally deep soils and well drained, but are exposed to considerable wash during heavy rains.

On a former occasion I have spoken to this group on the subject of rotations for alfalfa production. Where crop land must be replaced by other crops which are not competitive in a national sense, and where it is possible or worthwhile to rearrange the farming area to meet the new conditions, it is quite possible to maintain a portion of a field in alfalfa even though the rest of the field is planted to some other crop. To those of you who are confronted with this problem I would refer you to the Maryland Experiment Station Bulletin No. 329, where you will find outlined a complete plan. On most dairy farms it would be more satisfactory to set aside as much land area as is necessary to maintain a supply of alfalfa or alfalfa-alsike clover hay, using silage corn and winter barley as the other crops in the special rotation.

Where possible, the land area selected should be convenient to the buildings, but the actual selection must be based upon the character of the soil. In this special rotation winter barley follows corn silage. The latter crop is planted usually about ten days earlier than the best date for planting wheat. In the early spring, as soon as the soil is sufficiently dry to permit placing teams on it, either alfalfa or a mixture of alfalfa and alsike clover should be planted. The most satisfactory results from spring seedings are secured if the planting is done with a disc alfalfa drill. The second best results can be had by harrowing the barley land with a spike tooth harrow prior to broadcasting the seed. In the event that the spring planting fails the land may be disced and reseeded in August. It is best to broadcast seed in the August planting. Usually the drill places the seed too deeply in the soil. This is especially true insofar as it pertains to alsike clover. The suggested outline for the rotation may be modified readily to fit either a three or four-year cropping system. On farms where this special rotation is used the remaining land is organized into a three or four-year rotation in which corn, wheat, and mixed hay are grown. The latter may be used for pasture also.

You should bear in mind that the two groups of soils given in this report are classified on a productive basis for alfalfa. The assumption is made that the necessary organic matter, lime and fertility have been supplied to them in the past. Even the soils in group one would not be satisfactory alfalfa soils if the fertility is low. All of these lands would be equally productive not only for the grain crops, but also for pasture purposes, but it is not necessary to use them for pastures. In fact, the best alfalfa land is often only fair grass land because of the difference in character of the roots of the two types of plants. Approximately 25 per cent of the soils of the State are either too poorly drained or they

are too steep and shallow to permit an assured income on them each year. It is on these soils that the extension in pasture land should be made rather than on the good crop land. Such of the very sandy types that fall within this latter group may well be planted to an annual legume, such as lespedeza, rather than attempt to maintain grass on them.

Maryland is one of three States in which the entire soil area has been surveyed and classified. These survey descriptions and maps are especially useful in determining the kind of soils on farms, and when combined with the information to be found in the Maryland Experiment Station Bulletin No. 351, which is a productivity classification of the soils, it is possible to determine with accuracy the crops that may be grown to best advantage on the farms of the State.

IMPROVEMENT OF HAY IN MARYLAND

By PROFESSOR GEARY EPPLEY
University of Maryland

The present national agricultural policy is to reduce the acreage of farm crops in order to overcome the large surplus of those crops which enter into commerce. Our State recommendations for some time have been to produce more feed on the farm in order to reduce the large expenditure for animal feed, especially high protein feeds, which, in one county in 1930, amounted to one million dollars. At first, it would seem that these two policies are diametrically opposed, but such is not the case. By producing crops of high quality both plans may be adhered to; that is, the production of better crops on fewer acres. Thus, more pounds of digestible nutrients will be produced on the farm by the end of the year which, after all, is what our dairymen and animal husbandrymen are interested in. Two crops that have been greatly neglected in this State and are of unestimated value are the hay and pasture crops. The farmers of this State could well afford to use the time and energy released by reduction of the grain acreage, in the improvement of their pastures and in improving the quality of their hay. In this paper it will be attempted to show what may be done to improve the quality of the hay crop.

According to figures compiled by the Department of Agricultural Economics of the University of Maryland, our State produces 58,000 more tons of hay than it needs for its own consumption, or has a 10 per cent surplus. There are all kinds and qualities of hay but the amount of digestible nutrients in the barn and not the tons of bulk is the thing that counts. Only a small portion of our hay enters into commerce; therefore, there is no direct monetary discount for low quality. Of course, the cattle can't complain about their feed and are more or less satisfied if they get bulk. Poor quality, though, is reflected in reduced milk flow and lack of gain in weight, and can only be compensated for through supplementing with high priced concentrates.

There are four factors which effect the quality of hay. First, the kind of hay; namely, whether grass or legume such, as alfalfa or red clover, or sweet clover, the amount and kinds of weeds present, etc.; second, the time of cutting in relation to the age of the plant; third, the fertility of the land upon which the hay was produced; and fourth, the method of curing.

CHART I.

DIGESTIBLE NUTRIENTS IN HAY

	Protein	Total
Timothy	3.0	48.5
Orchard Grass	4.7	49.4
Wheat Bran	12.5	60.9
Alfalfa	10.6	51.6
Red Clover	7.6	50.9
Alsike Clover	7.9	47.3
Soybean	11.7	53.6

(From Table III of Henry and Morrison.)

In chart one there is a list of our most important hay plants and the percentage of digestible crude protein which each contains. For comparison wheat bran is included to show the relative high percentage of protein in alfalfa, red clover, alsike clover and soybeans. These figures are taken from Table III of Henry and Morrison's Feeds and Feeding. They represent average analyses and hence they do not show anywhere near the limit that might be reached in securing a high protein hay. It will be noticed that there is not a great deal of difference between the protein content of the legumes with, however, a slight advantage in favor of alfalfa and soybeans. Since the grasses are low in protein content, it is evident for most animal feeding that the hay should be mainly legume. Of course, one of the first questions that arise is why should a dairy farmer include timothy or some other grass hay in his mixture? The answer is that it is protection from entire crop loss in case the legumes fail. Cows will not starve to death on timothy. Further, timothy will have a much higher percentage of digestible crude protein, as will be shown later, if the mixture is cut at the proper stage. Furthermore, the timothy in the mixture facilitates curing. There are certain soil conditions where it is practically mandatory to use grass hays although lespedeza and sweet clover have helped out some under adverse conditions. Unfortunately, we do not have analysis and digestible protein tests on our weeds but certainly they do not add to the palatability of the hay. Most of the weeds have matured by the time of hay harvest and so have coarse, woody stems and many small seeds.

The time of cutting hay in relation to the age of the plant has a very material effect on the content of digestible nutrients. As a rule, plants increase in total weight until maturity, but usually the greatest amount

of total digestible nutrients is obtained at full bloom while the greatest percentage of digestible protein is obtained in the young plant before the flowering period.

CHART II.
COMPOSITION OF HAY AT VARIOUS PERIODS OF GROWTH

	Protein	Fiber	Nitrogen Free Extract
<i>Alfalfa</i> (from Kansas Expt. Station)			
One-tenth bloom	18.5	32.2	27.3
One-half bloom	17.2	35.4	34.0
All bloom	14.4	36.1	39.6
<i>Timothy</i> (from N. Hampshire Expt. Station)			
Plants 8 inches high.....	11.5	19.2	54.6
Beginning to bloom	7.0	26.1	53.7
Full bloom	6.8	26.6	51.9
Seed forming	5.8	26.9	52.2

Chart II (Chart page 142 Henry and Morrison—page 56.)

Chart II shows the decrease in percentage of protein of both alfalfa and timothy as the plant reaches maturity. It further shows an increase in crude fiber and nitrogen free extract. Following is a statement from Kansas Technical Bulletin No. 15:

"Analyses of alfalfa hay averaged for a period of three years showed crude protein variations in the entire plant, according to time of cutting, as follows: Bud stage, 20.2 per cent; tenth bloom, 15.4 per cent; full bloom, 15.9 per cent; and seed stage, 13.1 per cent. In a feeding test for three years the feed required to produce 100 lbs. of gain with beef animals was as follows: Bud stage, 1,628 lbs.; tenth bloom, 2,086 lbs.; full bloom, 2,163 lbs.; and seed stage, 3,910 lbs."

It is thus evident that if a high percentage of protein is desired, hay must be cut early, even if there is some sacrifice in total weight.

The leaves are the most nutritious part of the hay. In order to save the leaves the plant must be cut before it is too far past full bloom. Following is a statement from the U. S. D. A. Farmers' Bulletin No. 339:

"Two-fifths of the total weight of the alfalfa plant is in the leaves which contain three-fifths of all the protein, i. e., 44 lbs. of leaves contain as much as 100 lbs. of stems."

This fact certainly should be born in mind by all dairy farmers while making hay. Further, it should be remembered that a plant at blooming time is more palatable than at maturity and the nutrients more digestible.

The next phase to be discussed is one on which we do not have a great deal of direct information relative to many of the hay grasses. However, there are experiments with other crops that bring out the principle in which we are interested, namely, the effect of fertilization on the composition of the plant. For instance, does timothy grown on fertile land

have a higher percentage of protein and minerals than timothy grown on poor land?

Jehiel Davidson found that sodium nitrate increased the composition of wheat from 10.9 per cent to 13.13 per cent.

Thatcher and A. C. Arny in Vol. 9 of the J. A. S. A. show the increase in protein content of oats from 12.64 per cent to 15.14 per cent by the inclusion of legumes in the rotation. Further, they show an increase from 14.30 per cent to 15.74 per cent by the addition of manure and nitrate of soda.

CHART III.

EFFECT OF FERTILIZER ON THE PER CENT PROTEIN OF GRASSES

	Nothing	P ₂ O ₅ and K ₂ O	
		25 Lbs. N.	75 Lbs. N.
Mixed Grasses	7.6	7.6	9.8
Orchard Grass	8.9	10.2	12.6
Timothy	7.7	8.1	10.6

(From Piper.)

Chart III is based on figures taken from Piper which summarizes 73 experiments on the effect of nitrogen on the protein content of grasses.

The above experiments establish the fact that the protein content of plants may be increased by the application of nitrogenous fertilizers. Of course, for all crops there is a limit beyond which the protein content cannot be increased. The response in this respect may be well marked on a soil of low fertility but almost negligible on fertile land.

The chart shows that the protein content of timothy was increased from 7.7 per cent to 10.6 per cent by application of 75 pounds of nitrogen per acre. Following is a statement from Piper:

"There remains no doubt that the chemical content of the plants is directly influenced by the soil, and that other things being equal the richest feed, especially of grasses, is that grown on the most fertile soil."

While very little data is available on the other fertilizing elements it is generally accepted that animals have better bone when raised on fertilized farms because the feed supplies the necessary mineral elements for their proper growth.

Regardless of all else that is done to improve the quality of hay it may be all ruined by the curing method. No doubt, if the loss of feed during curing could be converted into dollars the figure would be astounding. Before going any further it will be admitted that 50 per cent of the curing loss is due to weather over which man has no control. In spite of this natural handicap the farmer must make every effort to get his hay into the barn in proper condition.

The first objective in hay curing is to reduce the moisture content to at least 20 per cent. However, in doing this, great care must be exercised in order to prevent the loss of leaves and to preserve the natural green color.

Too much attention cannot be put upon preserving the leaves, the

importance of which is brought out in a statement from Colorado Bulletin No. 110:

"The leaves seldom equal less than 40 per cent of the weight of the plant and frequently make up 60 per cent of the plant. Four-fifths of the crude protein contained in the alfalfa plant is found in the leaves. The leaves also contain 9/11 of the crude fiber."

An examination of the alfalfa plant and other legumes shows a very fragile attachment of the leaf to the stem. Another breaking point is offered by the attachment of the leaflets of the individual leaves. The leaf being thinner than the stem dries faster than the stem. Therefore, the method of curing has to be such as will give the stems a chance to dry and yet keep the leaves from drying too rapidly and crumbling away.

Some effect of the method of curing is obtained from the following figures which were obtained by analyses of hay cured in various ways made by Ralph Ruble, a student at the University of Maryland.

Sample	Percentage Crude Protein
A. Alsike	12.74
C. Alsike rained on.....	10.31
B. Timothy	8.81
D. Timothy rained on.....	6.12
E. Alfalfa dried in laboratory.....	22.77
F. Alfalfa cured in swath.....	21.96
G. Alfalfa cured in windrow.....	20.71
H. Alfalfa cured in cock.....	20.18
I. Alfalfa rained on.....	15.97

These figures show that rain very definitely lowers the protein content, and these results are substantiated by a number of other experiments. In comparing the results from plot F, cured in the swath, with those of plots G and H, cured in the windrow and cock, it would seem that curing in the swath is the best method to use in curing alfalfa. However, these results are somewhat misleading because the hay was taken from the swath and carried to the laboratory and there was no chance for loss of leaves as would be the case in ordinary hay making. As a rule, we recommend that most of the curing of legumes and grasses be done in the windrow. If a storm is evident before curing is complete, cocking the hay certainly would be a paying operation as partially cured hay is damaged to a greater extent than freshly cut grass. Curing hay in the swath is no doubt the fastest method and sometime we hear of people who cut and haul into the barn the same day. Under very exceptional conditions a good quality of hay may go in the barn but usually this method indicates low yield, hay that is cut close to maturity, and hay that is bleached and lacking in leaves.

The use and place of alfalfa has been very thoroughly brought out in the preceding paper. The hay mixtures for Maryland are given in Extension Circular No. 85, copies of which are available. The alfalfa hay should be cut not later than full bloom and if high protein is desired

the hay should be cut in 1/10 bloom, but this will be at the sacrifice of total yield. Red Clover should be cut at full bloom or when the heads start to turn brown. Timothy should be cut not later than full bloom and alsike when the first brown appears in the heads. Cut the hay after the dew is off in the morning. After it is well wilted rake into windrows for the final curing.

The Federal Hay Grades have been so formulated that they express the real quality of the hay. In order to grade number one or two it must be cut at the proper stage and cured in the windrow or cock as it is practically impossible to produce anything but number three hay otherwise. There are on display samples of hay put up by the United States Department of Agriculture which sets forth the various grades of alfalfa, clover and timothy hay. I feel sure that you will find a study of these very interesting and instructive.

"HOW TO CALCULATE FIELD AREAS"

In the absence of Mr. Ray W. Carpenter who was scheduled to give the talk, Mr. C. E. Wise, Jr., discussed this topic.

The substance of Mr. Wise's talk is contained in Circular No. 102 published by the University of Maryland Extension Service. Copies of this circular may be obtained without cost by writing the Extension Service at College Park, Md.

THE LESPEDEZAS IN MARYLAND

By F. W. OLDENBURG
Extension Agronomist

As agricultural crops, lespedezas are relatively new in Maryland. While there are many native wild lespedezas growing in Maryland, some of them annuals and some perennials, none of them seem to be of any agricultural value. However, an annual variety introduced into the State many years ago, grows wild over all the State except the higher elevations, but is best adapted for the southern counties where it is of considerable value as a pasture crop. This variety is known as the common lespedeza or Japan clover.

Japanese or Common Lespedeza

This annual legume has been grown in the Southern States for at least fifty years and has gradually spread northward through Maryland to the Pennsylvania line. In the southern counties it constitutes part of the natural pasture on rough land. Its usefulness may be increased in this area by artificial seeding to help out the natural spread.

When there is a thin stand, Japanese Lespedeza has a flat, spreading habit of growth, and attains little height. When the stand is thick, it

maintains an upright growth. This holds true for the other annual lespedeza also. It bears its inconspicuous flowers in the axis of the leaves all along the stem, forming numerous seeds. This seeding habit enables it to survive and reseed itself under pasturing.

Trials with this variety in the past in northern and western Maryland have not been successful. The Japan Clover failed to reseed itself. This is probably due to the fact that the seed supply came from the far south, principally Louisiana, and the plant had adapted itself to that climate. It has been determined lately in Ohio that plants that have reached the northern limit by natural spread are much earlier than those from the South.

Kobe and Tennessee No. 76

These are two varieties of lespedeza much grown in the South. Both are larger varieties of Japan Clover, but unfortunately they are also later maturing, and probably would fail to reseed in most of Maryland, particularly in the northern and western part.

Korean Lespedeza

Of all the newly introduced varieties of lespedeza this gives the most promise of being of considerable value as a pasture plant for many parts of Maryland. It is being tried out by farmers in nearly all parts of the State with varying results. Like Japan Clover, this variety is an annual but it makes more growth and has larger leaves. Isolated plants tend to spread along the ground but when thickly sown they are not so branched and stand erect. Like the other lespedezas, it makes little growth in the spring but reaches its maximum size in August and ripens seed in October. It has reseeded itself wherever it was tried out.

Korean Lespedeza in Maryland Agriculture

It is too early to say how important a place Korean Lespedeza will occupy. It cannot take the place of the clovers and alfalfa but on soil too sour for them, it is well to give Korean Lespedeza a trial. Sown on the unplowable pastures at the rate of four to five pounds per acre, it should increase their pasure value considerably and, where adapted, reseed itself and grow in thickness of stand from year to year. It appears also to have considerable promise as a cover crop for orchards.

Lespedeza may be sown as a part of a pasture mixture at the rate of three to four pounds per acre or as a pure stand sown in very early spring either alone or in the standing grain at the rate of 15 to 20 pounds of seed per acre. The best results are obtained from the heavier and the earlier seeding.

Its value as a hay crop is problematical even on soils that will not grow clover successfully. The growth it attains depends not only on the soil fertility, but also upon the thickness of the stand, and the competition with

other plants, and even more on the summer rainfall. Due to these factors a stand may vary in height from a few inches to a foot or more. It is not practical to cut short growths. Lespedeza hay cut when the plant is in bloom or soon afterwards has but little less protein than alfalfa hay. It is safest to inoculate seed, especially in the northwestern part of the State, when sowing for the first time on any soil.

Lespedeza Sericea

This is a perennial variety that takes several years to develop its maximum growth. It may grow but six to eight inches the first year, sending up a single stem which dies down to the root at the end of the season. In three or four years the roots develop considerable size, and send up numerous branched stems that may attain a height of three or four feet.

Trials in Maryland are too recent to estimate its adaptability. No doubt it will be a valuable addition for Southern Maryland but soils that heave out plants during the freezing and thawing period, such as the so-called white oak soils, would have to be avoided.

Harbin Lespedeza and Early Maturing Common Lespedeza

There is need for early maturing varieties of lespedeza suited for the Northern States and for the higher elevations. Such varieties were introduced from Asia recently and a few Maryland farmers in the western counties obtained small lots to try them out.

Six obtained seed of the Harbin variety. In all trials the seed germinated well, making a good stand, but the plants did not attain the growth expected and ripened several weeks before killing frost, with an abundant set of seeds.

Some seed was harvested but most of the fields were left for reseeding for next year.

It is evident from these trials that this variety ripens unnecessarily early for Maryland conditions and would not give as much pasture as the Korean that ripens somewhat later. It may be suited to the mountain farms of Western Maryland, however, and that will be tried out the coming year.

Two growers obtained seed of the early maturing Common Lespedeza. This appears to ripen a week to ten days later than the Harbin. No seed was harvested, but it may prove to have a place in the higher parts of the State also.

SECRETARY'S REPORT

The State Corn Show was held as usual in connection with the meetings of the State Farm Bureau and of the Maryland Agricultural Societies. Prizes were offered for the following seven classes of corn:

- I. Reid's Yellow Dent.
- II. Golden Queen.

- III. Other Yellow Corn.
- IV. Lancaster County Sure Crop.
- V. White Cap Corn.
- VI. Johnson County White.
- VII. Thirty-Ear Samples of Seed Corn.
 - A. Reid's Yellow Dent.
 - B. Golden Queen.
 - C. Other Yellow Corn or Lancaster County Sure Crop.
 - D. White Dent or White Cap.

Class VII is a new feature in the State Corn Show, but there were nine fine 30-ear exhibits of farmers' seed corn. No doubt next year many more will take advantage of this feature.

The storm in late August flattened out much of the corn of the State and it looked doubtful for awhile after that if there would be any good corn to show. It was, therefore, very gratifying to see the splendid exhibits of corn this year that were quite as numerous as in former years.

Results of the State Potato Show, which was held in cooperation with the State Corn Show, are reported in the Vegetable Growers' Association's report.

Judging of the State Corn Show was done by Professor J. E. Metzger of the University of Maryland and by Mr. C. E. Phillips, Assistant Agronomist, University of Delaware.

The Special Awards

The sweepstakes ribbon for the best ten ears of corn was won by J. S. Ward, Leesburg, Virginia.

Sweepstakes prize for the best 30 ears of corn was won by Walter Warehime, Westminster.

Grand champion sweepstakes was won by J. S. Ward, Leesburg, Virginia.

Both Mr. Ward and Mr. Warehime won the sweepstakes prizes with exhibits of Reid's Yellow Dent corn.

Following is a complete list of the winners in the State Corn Show:

Class I—Reid's Yellow Dent—First, J. S. Ward, Leesburg, Va.; second, Tobias Zimmerman, Frederick; third, Smith Ward, Leesburg, Va.; fourth, Richard Zimmerman, Frederick; fifth, Maynard Hawker, Frederick; sixth, Roland Davis, Street; seventh, Jacob Burtner, Boonsboro; eighth, Paul M. Galbreath, Street; ninth, M. C. Zimmerman, Frederick; tenth, C. D. Davis, street; eleventh, John Naylor, Galena; twelfth, Matt Harding, Cambridge; thirteenth, Foster Brothers, Owings Mills.

Class II—Golden Queen—First, Walter Warehime, Westminster; second, Norma B. Warehime, Westminster; third, C. K. Holter, Jefferson; fourth, D. S. Warehime, Westminster; fifth, Nora Arbaugh, Westminster; sixth, Lydia Arbaugh, Westminster; seventh, Granville Arbaugh, Westminster; eighth, William Hines, Brighton; ninth, David Spencer, Westminster; tenth, Charles Albright, Reisterstown, Md.

Class III—Other Yellow Corn—First, Charles E. Pearce, Monkton;

second, C. W. Burtner, Keedysville; third, T. S. Hearn, Salisbury; fourth, Howard Burtner, Keedysville; fifth, C. K. Holter, Jefferson.

Class IV—Lancaster County Sure Crop—First, Walter Warehime, Westminster; second, Norma B. Warehime, Westminster; third, D. S. Warehime, Westminster; fourth, Eleanor Galt, Westminster; fifth, Ira C. Doub, Hagerstown, Md.

Class V—White Cap Corn—First, Mellor K. Ward, Jarrettsville; second, Jacob Burtner,, Boonsboro.

Class VI—Johnson County White—First, Tobias Zimmerman, Frederick; second, M. C. Zimmerman, Frederick; third, Richard Zimmerman, Frederick; fourth, Howard Burtner, Keedysville; fifth, Roger Butner, Keedysville; sixth, Ira C. Doub, Hagerstown; seventh, Fred C. Jones, Darlington; eighth, C. K. Holter, Jefferson; ninth, Noah Arbaugh, Westminster; tenth, Edwin Burtner, Keedysville.

Class VII—(A) Thirty-Ear Sample of Reid's Yellow Dent—First, J. S. Ward, Leesburg, Va.; second, Tobias Zimmerman, Frederick; third, Paul M. Galbreath, Street; fourth, Jacob Burtner, Boonsboro; fifth, Maynard Hawker, Frederick.

(B) Thirty-Ear Sample of Golden Queen—First, Walter Warehime, Westminster; second, C. K. Holter, Jefferson; third, Noah Arbaugh, Westminster.

(D) Thirty-Ear Sample of White Dent or White Cap—First, Tobias Zimmerman, Frederick; second, J. C. Jones, Darlington.

After Mr. Oldenburg's discussion of the lespedezas in Maryland, County Agent M. D. Moore of Hagerstown, Md., reported on the progress of lespedeza growing in Washington County. The largest project was on the farm of C. H. Locher & Company of Hancock. They are experienced lespedeza growers from Virginia. Eighty-five acres were sown with Korean Lespedeza in the spring of 1932 along both sides of the canal for pasture and seed and a good stand was obtained. This reseeded itself in the spring of 1933, making a very thick stand. Part of it was cut for seed and threshed. Seven thousand pounds of seed were obtained.

A hillside orchard on shale soil was sown to lespedeza this spring and a very good stand was obtained.

Mr. Moore also reported on the progress of other trials particularly with the Harbin variety.

At the conclusion of Mr. Moore's report, there was a general discussion among those present of their experiences in growing lespedeza. Some of those who participated in the discussion are Roy Weagley, Washington County; Edwin Warfield, Howard County; Dr. Edward Symons, Prince George's County; Mr. Herbert Hoopes, Harford county; Professor J. E. Metzger, University of Maryland; and President R. A. Pearson of the University of Maryland.

BUSINESS MEETING

At the business meeting held at the close of Thursday's meeting, the following officers were elected for 1934:

President—John Crum, Walkersville, Maryland.

Vice-President—Walter Warehime, Westminster, Maryland.

Secretary-Treasurer—F. W. Oldenburg, College Park, Maryland.

In addition to their other duties, the president is to represent the Association on the Board of Directors of the Agricultural Corporation of Maryland and the vice-president is to represent the Association as a member of the executive committee of the State Farm Bureau Federation.

**TREASURER'S REPORT, MARYLAND CROP IMPROVEMENT
ASSOCIATION**

January 1, 1933, to December 31, 1933

RECEIPTS:

Book balance January 1, 1933.....	\$21.17
Appropriation from Agricultural Society.....	305.30
Dues paid by members.....	5.00
Dues taken out of awards.....	35.00
Two awards of \$1.00 each canceled.....	2.00
Award canceled and re-drawn.....	1.00
	\$369.47

EXPENDITURES:

Maryland Farm Bureau dues.....	\$20.00
Awards	180.00
W. R. Ballard, awards for Vegetable Show.....	60.00
Award canceled and re-drawn.....	1.00
Dues taken out of awards.....	35.00
Torsch and Frantz—ribbons for show.....	10.80
Tax on checks	1.42
Cash in bank December 31, 1933.....	61.25
	\$369.47

Baltimore, Md., January 10, 1934.

We, the undersigned, have examined the books of the Treasurer of the Maryland Crop Improvement Association and have found them to be correct.

W. A. HEAPS,

MELLOR K. WARD,

Auditing Committee.

REPORT
OF THE
TWENTY-FIFTH ANNUAL MEETING
OF THE
Maryland State Beekeepers'
Association
Lord Baltimore Hotel
January 10, 1934
Baltimore, Maryland

The twenty-fifth annual meeting of the Maryland State Beekeepers' Association was held on Wednesday, January 10, in conjunction with the Maryland Agricultural Society-Maryland Farm Bureau Federation meetings at the Lord Baltimore Hotel in Baltimore.

The meeting was called to order by President Kelly at 8 P. M.

Mr. Kelly delivered the president's address, in which he reviewed the activities of the association during 1933, and discussed the relation of prices of honey and bee supplies. Mr. Kelly talked briefly of a plan to encourage the sowing of sweet clover in the land withdrawn from wheat, corn and tobacco production.

Mr. Nolan continued the program with a talk entitled, "The Importance of Breeding Stock in Beekeeping."

The meeting then recessed to hear Secretary of Agriculture Wallace's address and reconvened at 9.30.

Mr. Hambleton spoke regarding the code drawn up by the queen breeders and package bee shippers in the South.

Mr. Kern talked regarding the value of beekeeping to the general farmer.

There followed an illustrated lecture on bee diseases by Dr. Burnside.

By vote of the Association the audit of accounts, report of the Extension Specialist and the election of officers were postponed until the next meeting, scheduled for February 17.

Meeting adjourned at 11.30 P. M.

ANNUAL ADDRESS BY THE PRESIDENT

HAROLD L. KELLY

Forest Glen

Ladies, Gentlemen, Fellow Beekeepers: Once again we begin a new year with the same optimism that always prevails among beekeepers—that this will be a better year than the one just past. And what a year it will be if it is not.

I can recall worse years so far as honey crops are concerned, but I doubt if there has been for many years a combination of discouragements such as a poor crop, low prices and poor demand.

However, that is a year now in the past, so we will leave it there and look forward to the better things the new year has in store for us.

First, though, I wish to review the activities of this Association for the past year: We began our field meetings in May with a meeting at the home and apiary of Mr. Norris James of Baldwin. On July 1 we made our annual trip to the Bee Culture Laboratory, where we were the guests of Mr. Hambleton and his staff. An afternoon session of this meeting was held at Forest Glen, where it was my pleasure to have you as my guests. Mr. Clarence Kern of Denton was our host for the August meeting on the Eastern Shore. For our autumn meeting we invaded Western Maryland for the first time with a meeting at Hagerstown. The first session was held in the Y. M. C. A. Hall, where we heard the speakers and saw the Department of Agriculture moving picture, "The Realm of the Honey Bee," including the new film strip pictures of bee diseases which you, also, will see here tonight. Later we journeyed to the home of Mr. Tritsch, just outside of Hagerstown, where we found a well-equipped apiary of 160 colonies, and a beekeeper who manufactures much of his equipment.

For several years I have advocated a field meeting in Western Maryland, and now that a start has been made I sincerely hope it will be an annual affair. We found there a group of very sociable and well-informed beekeepers who are as enthusiastic as any of us, and honey produced equal to any I have seen in Maryland. I was particularly amused over some honey that was displayed as some of their "dark" honey. I have seen such honey at the fair classed as light and with a prize ribbon on it too. The meeting was well attended. A few came down from Pennsylvania. Eastern Maryland was not well represented, but I hope next year some of you will attend a western meeting and contact our fellow-craftsmen from that part of the State. In general, all meetings were well attended, considering conditions that prevailed last year.

Concerning our future, we have much to do. Prices are the lowest in years and the demand is not what we would like it to be. We can do little ourselves to improve prices and probably will have to move along

with the rest of the country in this respect, but we can continue to keep up the quality of our product, using the Government grading standards, if possible, pack so that the honey is attractive, and build up a local demand. I believe that some here have been very successful in that respect.

The American Honey Producers' League has been endeavoring to work up a satisfactory marketing agreement, but are not meeting with much success because of lack of proper organization of the beekeepers. Queen bee breeders and package men are getting somewhere with their marketing agreement, and as a result we will pay more this year for our queens and package bees. Also, the NRA has already caused an increase in supplies, so if we must pay more for our supplies, etc., we should get more for our product. We expect to hear from Mr. Hambleton concerning this later this evening.

We also have an excellent opportunity to improve our source of nectar if we will but take advantage of it, and that is to encourage the planting of sweet clover on wheat, corn and tobacco acreage that has been withdrawn from production by contracts with the Government. The Agricultural Adjustment Administration permits the farmers to plant certain soil improvement crops on this land, and sweet clover is one of the crops permitted. There is an excellent editorial in this month's "Gleanings in Bee Culture" on the subject, which you should read.

It is my hope that we can enlist the aid and support of the Extension Service in a campaign to encourage the planting of sweet clover on the contracted acreage, and it is possible that more information on this will be available for our next meeting.

Only the annual varieties should be encouraged as the biennial varieties would likely be plowed under after the first year of growth, thereby doing the bees no good. Once sweet clover is established on a farm, there is a possibility that it will be a permanent crop, taking its turn in rotation with other crops.

REPORT OF THE SECRETARY-TREASURER

DR. ERNEST N. CORY
College Park

During the past year considerable progress was made in the location and eradication of foulbrood, although the work was handicapped to some extent by insufficient travel funds. The Association continued its routine activities along approximately the same line as in previous years, although there was considerable more interest exhibited in the field meetings and a good attendance at each one of them. There was a notable increase in the number of roadside stands carrying honey throughout the summer seasons. Prices remained fairly uniform and demand quite steady, so that most beekeepers sold out all of their honey on hand.

There still remain large opportunities for successful honey production in the State. White and sweet clover production has been increased, in some measure due to the reduction in grain acreage in accordance with the five-year plan. The supply of colonies for pollination of fruit is generally inadequate. The work that Mr. Abrams has been doing on pollination should bring results for those who care to enter the field of furnishing bees for orchardists.

Membership still remains at a low ebb, although the need for cooperation is greater now than at any time since the war. In the present disturbed condition of agriculture, beekeepers may find organization of paramount importance in safeguarding their interests and industry.

Financial Statement

January 10, 1934

Balance on hand—January 4, 1933.....	\$39.67
By dues and Journal subscriptions.....	26.50*
	\$66.17
Expenditures:	
S. G. Crocker for honey and credit on dues.....	\$2.00
J. Davis for operating movie.....	5.00
Honey Institute contribution.....	5.00
Farm Bureau dues.....	20.00
Bank taxes	.10
	\$32.10
	\$34.07
*Not deposited, but sent direct to Journal.....	4.50
Balance on hand January 10, 1934.....	\$29.57

THE IMPORTANCE OF BREEDING STOCK IN BEEKEEPING

W. J. NOLAN

Apiculturist, Bureau of Entomology
United States Department of Agriculture

The honey crop is conditioned by five factors: Weather, acreage of honey plants, number of colonies, strain of bees, and system of apiary management. The beekeeper has no control over the weather in any locality, and under commercial conditions in this country has little or no control over the acreage of honey plants. He does have control over the number of colonies, he has the choice of the strain of bees, and he has the choice of the system of management.

If control over the number of colonies and choice of the system of management are to yield the greatest benefit, it is necessary that the strains of bees available for the beekeeper be standardized. This means

the breeding of definite strains whose various characteristics are determined as accurately as possible.

Breeding the honeybee is accomplished either under natural conditions or under controlled conditions, as shown in the following outline:

1. Under natural conditions (little or no restrictions on queen or drones; mating on the wing).
2. Under controlled conditions.
 - A. Natural insemination.
 1. Available drones restricted (mating stations, time of flight restricted, etc.).
 2. Flight range of queen restricted (tethering, etc.).
 3. Flight ranges of both queen and drones restricted (tents, greenhouses).
 - B. Artificial insemination.
 1. By placing drone organs in position in queen.
 - a. Before separation from drone (Quinn-Laidlaw).
 - b. After separation from drone (Malyshev, Prell).
 2. By removing sperm from drone organs.
 - a. External application (brush, squeezing out sperm, etc.).
 - b. Internal application (injecting within genital opening) (Watson).

Of all the methods involving artificial insemination of queen bees, only the Watson method has so far been used by others repeatedly with success. This method has been developed far enough at the Bee Culture Laboratory to insure a succession of generations and sufficient worker progeny with which to make satisfactory genetic studies. As a matter of fact, some of the queen bees in the experiments with this method at the laboratory appeared to be as well inseminated as some inseminated under natural conditions.

The economic importance of scientifically breeding queen bees in this country is apparent when the amount of capital represented by queen bees in use in this country is taken into consideration. According to an estimate by the Bureau of Agricultural Economics, there were in this country in 1931 4,600,000 colonies. Since it may be assumed that this figure still holds, this means 4,600,000 queen bees in active service at the present time. Estimating the value of these queens at only 25 cents each, the depression price of last year, the total par value represented is \$1,150,000. With such a sum involved, the importance of having each of these queen bees represent stock that will stand appraisal at par, and thus render it unnecessary to write off any of the valuation of this capital investment, should be apparent.

REPORT OF THE EXTENSION SPECIALIST IN BEEKEEPING

GEORGE J. ABRAMS

College Park

Extension work with the Maryland beekeepers in previous years has indicated conclusively that the greatest need in extension beekeeping lies in the field of education. There is not a beekeeper in the State that cannot benefit in some way from extension work. With this in mind, the bulk of the work during the year of 1933 was directed into educational channels. Greater expenditures of time and money were made in endeavoring to teach better and more efficient apiary practices, which necessarily involved the teaching of bee behavior, than were made in the other divisions of the extension program.

Previous experience in apicultural extension work also has made it clear that educational work can be accomplished with greater thoroughness and ultimate success by individual instruction, in the apiary, than by the employment of all the other educational media combined; *i. e.*, talks, demonstrations, meetings, use of literature. In educational beekeeping work there is no substitute for individual instruction while actually working with the beekeeper in his apiary.

While individual instruction in the apiary entails more time and expense per visit, it is believed that the resultant non-necessity for frequent additional visits because of the thoroughness with which the one instructed is able to learn the fundamentals of bee behavior and apiary management, makes this method of education the least expensive over a period of years both to the extension service and to the beekeeper. The saving to the Extension Service is obvious if one thorough visit can take the place of several and the saving to the beekeeper is accomplished when he puts into immediate practice methods cutting his cost of production. It means that the extension worker, in a half day's actual work with the beekeeper, can clear up numbers of questions which have been puzzling in spite of perusing literature and the infusion of local bee lore, and by demonstrations can show clearly how various manipulations should be done in a manner difficult to learn through reading.

This individual type of educational work necessitates the extension worker thinking in terms of years. Obviously the entire State cannot be covered in one or two seasons. But, as indicated previously, a beekeeper once instructed is less in need of help, for a time at least, than those who have received their instructions from lectures, group demonstrations, and literature. This offers an opportunity each year to increase the number of contacts and extend the work to new territory. A cycle in this work can hardly be limited to one or two years, and, as has been suggested before in Extension Work, it is probably best to plan the work or at least think of accomplishment in relation to five-year periods.

Previous experience has shown that the type of educational work needed,

ranges all the way from the most elementary instructions for the beginner and many old-timers using antiquated methods, to help in marketing problems alone for experienced and successful producers. This one fact has in the past militated against the success of the meetings, with lectures and demonstrations, as an educating medium, because beekeepers meetings are invariably attended by both beginner and seasoned beekeeper. This is not meant to indicate that the meeting does not have its place in the work, but rather that in the coming year it would be well, in addition to the regular meetings, to organize classes in beekeeping for the beginner or less informed beekeeper to be held at regular intervals throughout the State.

During 1933, 150 extension visits were made to beekeepers. In each case an effort was made to help the beekeeper with his particular problem. If the beekeeper was a beginner, an effort was made to help him start out right by thoroughly grounding him in the fundamentals of the enterprise. If the beekeeper had kept bees for years, but was using out-of-date equipment and pursuing unprofitable methods, the effort was directed toward modernizing his equipment, and educating him to more efficient practices. Where the beekeeper desired an inspection of each colony or where disease was suspected, a thorough inspection was given coincidently with the instruction.

Supplementing these personal contacts, five beekeepers' meetings were held, at which talks were given by the extension specialist and guest speakers.

Three radio talks of an educational nature were given and considerable correspondence was carried on with beginners. Liberal use was made of United States Department of Agriculture beekeeping bulletins in supplying literature, especially for beginners.

At the beginning of the year a mimeographed schedule was prepared and sent to a selected group of beekeepers. These schedules are simple to work with and were designed to help the beekeeper analyze his business. All pertinent records can be kept on these sheets. They are now being used and it is hoped that suggestions and criticisms arising from their use will form a basis for the preparation of a standard yearly record sheet to be used in Maryland and that its use will help the honey producer to lower his cost of production through more efficient management.

A special effort was made this year to reach beekeepers who had not previously received help from the Extension Service. As a result one hundred and eight (108) new personal contacts were made. Twenty-eight (28) new contacts were also made through correspondence; and a number of other beekeepers learned of apicultural extension work for the first time through meetings.

During the year one thousand one hundred and fifteen (1,115) colonies were inspected for disease in sixty-five (65) apiaries. American foulbrood was located in seven (7) apiaries. Forty-three (43) colonies were found to be diseased. Of the seven diseased apiaries, five were new infections,

the source of infection not being definitely determined, whereas the remaining two cases were traced to the movement of diseased equipment. The diseased apiaries were located in Baltimore, Howard and Queen Anne counties.

Apiaries inspected	65
Colonies inspected	1,115
Apiaries diseased	7
Colonies diseased	43
Per cent apiaries diseased.....	10.78%
Per cent colonies diseased.....	3.85%

European foulbrood was located in three colonies in one apiary. Instructions for its treatment were given and carried out.

Several infestations of the bee louse, *Braula coeca*, were located or reported. In each case directions for extermination were given.

In connection with the bee disease work a need has been felt for a good general bulletin on bee diseases. Such a bulletin has been prepared. Its publication and distribution would help greatly in an educational way.

Work with the Maryland fruit growers was curtailed during 1933. While the use of honeybees as pollen distributors is not a new practice with a number of fruit growers and is included as a regular part of their production work, it is still something new and untried by a great majority of the growers. For this reason it was deemed expedient to limit the work to those orchardists requesting help and not to attempt a general campaign calling for increased expenditures in a year when every economy was being practiced.

Eighteen fruit growers were visited and in some cases the progress and interest was most encouraging. Several of the more extensive growers making use of colonies for the first time were well pleased with the results obtained.

As part of the educational program along this line, an extension bulletin entitled "Honeybees for Orchard Pollination" was prepared and published as Bulletin No. 69 of the Extension Service.

A part of the program of the annual Horticultural Society meeting was furnished in the nature of a moving picture, pertaining to honeybees, and one radio talk about bees and orchard pollination was given over Station WBAL in Baltimore.

During the year five well attended meetings of the Maryland State Beekeepers Association were held. The annual meeting was held in Baltimore in connection with the Maryland Agricultural Society-Maryland Farm Bureau Federation. Four field meetings were held in well scattered points throughout the State as follows: Baldwin, Baltimore County; Somerset, Montgomery County; Denton, Caroline County; and Hagerstown, Washington County.

The Bee Culture Laboratory of the United States Department of Agriculture contributed very materially to the success of the program of these meetings by giving generously of their time and knowledge.

THE EFFECT OF MARKETING AGREEMENTS ON SHIPPERS OF BEES

JAMES I. HAMBLETON

Director

United States Bee Culture Laboratory

Early in June, 1933, some of the shippers of package bees and queens in the Southern States called a meeting to consider the advisability of asking the Government to approve a marketing agreement under which all package bees and queens produced in the United States could be marketed, in the hope of putting this branch of the beekeeping industry on a sound financial basis.

At one time package bees sold as high as \$6.50 for two pounds of bees and a queen. This price is quite in contrast to prices prevailing during the shipping season of 1933, when unlimited quantities of package bees could be obtained as low as \$1.75 for a two-pound package and queen. The shippers of package bees have been universally complaining that at this figure they were not able to make ends meet, and that prices were constantly being forced still lower owing to unscrupulous price cutting. The purchasers of package bees in the North and in Canada naturally could not be blamed for this situation, nor could they do anything to remedy it, since everyone is interested in buying bees just as cheaply as possibly.

On several previous occasions the shippers of package bees and queens have attempted to effect an organization to improve conditions, but every effort has resulted in failure, and it was not until the passage of the Agricultural Adjustment Act that the situation appeared encouraging.

The writing of the marketing agreement has required a great deal of time and thought on the part of many of the shippers of package bees and queens in the Southern States and in California, and by the leaders in beekeeping. Before it was possible for the Agricultural Adjustment Administration to announce a public hearing on the agreement, the document was rewritten some eight or nine times. The agreement as presented at the public hearing at New Orleans, December 13, however, proved satisfactory, since no opposition was voiced against it either by the shippers or buyers of package bees and queens.

The agreement provides for a Control Committee of five members selected by package shippers and queen-breeders, which will have the responsibility of administering the agreement. The routine work is to be handled by a managing director, who shall be employed by the Control Committee. The managing director is not to be a shipper or to have any financial interest whatsoever in the package bee or queen business. An assessment fee, based upon the proportionate business of each shipper, will take care of all operating expenses. A provision in the agreement takes care of fair trade practices, and another provision requires that no

package bees or queens shall be sold below certain minimum prices, which shall not be any higher than prices prevailing from 1909-1914, and shall be based upon cost of production and be approved by the Secretary of Agriculture. The agreement further proposes to license every shipper of package bees and queens in the United States, and no package bees or queens shall be sold except as provided for in the agreement.

The marketing agreement for package bees and queens is a compact document couched in plain English and is not likely to be misinterpreted. Since it is designed to control the operation of some 300 package shippers and queen-breeders, its administration should not be unwieldy.

The success of the shippers of package bees and queens in presenting document couched in plain English and is not likely to be misinterpreted in some of the leaders of beekeeping in the United States that it might be possible to formulate a marketing agreement to regulate the production and sale of honey. As a result of the insistent demands from several quarters of the country, the president of the American Honey Producers' League appointed a committee to draw up a marketing agreement. This has now been done and the agreement has been discussed rather fully in the bee press. The problem of controlling the production and sale of honey presents an entirely different picture, however, from that of controlling the sale of package bees and queens. For one thing, an agreement to control the production and sale of honey will have to be broad enough to include almost every hamlet in the United States, and instead of affecting some 300 individuals, it is estimated that some 800,000 will be affected; consequently, little definite headway has been made, but the committee which has been appointed to handle the matter is still hard at work and is revising the original document in accordance with suggestions and criticisms which it has received. Whether or not it will be possible to get approval of a marketing agreement for bee products, the fact remains that some sort of concerted action on the part of beekeepers is highly necessary to improve the conditions which prevail in the marketing of honey. The need for strong beekeepers' organizations is more evident and manifest today than it has been in any previous time.

FARM BEEKEEPING

C. J. KERN

Denton, Maryland

It is indeed an honor to be asked to talk to this group of beekeepers and bring you greetings from the Eastern Shore. I am sincere in this statement, for I consider it a great privilege to be present and take part in a meeting of this kind.

I hesitate somewhat in facing you State beekeepers, many of you in the business in a big way and some of you specialists, when I am but a

general farmer with bees as a side line, but since we are all beekeepers we must have problems of interest to us all.

I appreciate what your reaction to a farmer-beekeeper or back-lotter might be who believes in old-time ways—box hives, etc.—and who knows nothing of disease or the proper care of bees. You are certainly justified in objecting to this type of beekeeper.

Bees have a place on a farm kept in a modern and business-like way; in fact, are very essential to every community where there is clover, certain vegetables and fruit trees especially, since bees are the surest means of pollinization.

Nothing in my mind pays as well on the farm as bees for the time involved and the money invested. So to the diversified farmer, of which there should be many more, beekeeping stands out as a favorable possibility.

The beekeepers of the Eastern Shore probably cannot produce in quantity or compete in price with beekeepers of the sweet clover and alfalfa sections of the prairies, but we can produce a better grade of white clover honey, sell to a better trade at a much better price. I wish to stress the point of profit. I believe in keeping a correct and complete set of records on any and all farm projects and get down to the cost and profit as it relates to your farm. If you are cooperating with the Extension Service of your State, you will know how your farm costs and profits compare with the average Maryland farmer, which information is essential to your business.

We had a very bad honey year in our section of the Shore, especially comb honey. It was light in weight, many sections uncapped and some a dark grade from woods flowers. The colonies I used for extracted honey did a little better. Bees are in only fair condition, not extra strong and low in stores. They will need attention in early spring.

I keep around twenty-five colonies, re-queen each fall and have my bees in No. 1 condition for winter and spring and built up strong at time of honey flow.

I find plenty of work in the spring, with poultry as the main issue and cattle, hogs and bees as supplementary sources of income. I need the full seven days of the week for work and rest. I do find, however, that outside of a rush in late spring my projects work with an even distribution of time and dovetail together pretty well.

I do most repairing, cleaning supers, frames, etc., in early spring in wet weather. I run about half my colonies for comb honey. My girls fold and put foundation in the sections just before the honey flow. White clover gives us our main surplus.

I find one may be a good beekeeper, but a poor salesman, or vice versa, but being a producer is certainly a big help in selling our product. My wife is the honey salesman in our firm. It started by her saying if I'd produce it she would sell it. That was when I was but a novice and she

had more time than now. The problem is now she has more honey to sell with less time to give it. There are ways and means by which you can advertise and sell which we have not taken full advantage of as yet. Due to a lack of time we sell a lot more wholesale than we otherwise would.

I feel it is important and necessary to have and to support a beekeepers' organization, both of the State and of the counties, to look after the beekeepers' interests whatever and wherever they may be; checking up on diseased apiaries and creating and stimulating interest, especially among farm beekeepers.

I believe in organization. In the past and today as never before do we see the fruits of organization. I can't see why, especially a beekeeper, after he looks into a hive of bees and sees there the true living example of organized effort, does not become a member of this fine State organization.

In closing I would like to make a personal testimony as to some of the benefits of this Association that money cannot buy. I had the misfortune of breaking my leg last September. Of all offers to help from neighbors and friends or letters received, none of which I appreciated any more than the one I received from Mr. George Abrams. Knowing him as I do, and as we all do, I knew his offer to assist me in any way was most sincere.

Of all friends that called and the one I appreciate most was my fellow Eastern Shoreman—a high type beekeeper and gentleman, A. Howard Johnson, who not only went out of his way to call, but brought and left a friendly token.

I love to be among my bees, love to be among beekeepers—so it is indeed more than a pleasure and honor to be here.

REPORT
OF THE
Maryland Vegetable Growers
Association
FIFTEENTH ANNUAL MEETING
First Session
Wednesday, January 10, 1934
Baltimore, Maryland

President W. N. Eyler called to order the fifteenth annual meeting of the Maryland Vegetable Growers' Association in its first session at 10 A. M. at the Lord Baltimore Hotel, Baltimore, Maryland. After greeting the assembly, President Eyler proceeded with the program by introducing Professor J. E. Metzger of the University of Maryland.

FERTILIZERS UNDER THE AGRICULTURAL ADJUSTMENT ACT

By J. E. METZGER
University of Maryland

Before discussing the status of the fertilizer business in Maryland under the Agricultural Adjustment Act it will probably be useful to have a brief review of the trade in Maryland under competitive practices.

In 1932, the latest year for which complete records are available, there was sold in the State 124,880 tons of fertilizers. Of this amount, 91,642 tons were complete fertilizers; that is, they contained the three elements—nitrogen, phosphorous and potash. Practically all of this fertilizer was sold by Maryland dealers. Only 4,683 tons were sold by out-of-State firms.

A total of 103 firms registered fertilizer analyses with the State Chemist. These firms registered 152 analyses and a total of 793 brands. This is an average of more than seven brands per firm and 1.5 analyses per firm. It should be remembered that the terms "analysis and formula" have entirely different meanings. The analysis refers to the composition of the fertilizer insofar as it affects the amount of plant nutrition ingredients which it contains. The formula, on the other hand, refers to the sources of the materials used in making up a fertilizer of a given composition.

For example, one fertilizer analysis might have all nitrogen from nitrate of soda, whereas another analysis might have all of its nitrogen derived from ammonium sulphate. Brand names should be regarded as trade names. Occasionally a brand name or trade name gives some indication of the material used in making the fertilizers, but generally speaking there is no such relationship. A few companies in the past, particularly the cooperatives, have used what is termed "open formulas." Practically every dealer is willing to give the consumer a list of materials used in making the fertilizer if such information is requested. There are disadvantages, however, in requiring open formulas by law, the chief disadvantage being the possibility of shortage in materials and accompanying high prices. This is particularly important as will be noted when we discuss some of the provisions of the code of fair practice in the fertilizer industry.

In 1922 there was held a joint meeting of the agronomists of the North Atlantic States (not including the New England States) and the fertilizer manufacturers in which the first definite step was taken to reduce the number of fertilizer analyses appearing on the market. At that time twelve analyses were selected for Maryland. These analyses were selected on the basis of fertilizer trials and research work in general on the response of crops to fertilizers. The twelve analyses selected were considered adequate for all crops grown in Maryland. Since that time two subsequent meetings have been held for the purpose of revising the recommendations. In 1932 nearly 80 per cent, or 8 out of every 10 tons of mixed fertilizers sold in Maryland, had a composition conforming with one or another of these recommended analyses. Or, to put it in another way, of the 14 analyses agreed upon by the investigators in horticultural and farm crops work as being sufficient, 80 per cent of the consumers were satisfied that these recommendations met their needs. Twenty per cent of the consumers felt obliged to order fertilizer of some different analysis. Or, to put it in still another way, 74,414 tons were made according to 14 analyses, an average of 5,237 tons per each analysis. The remaining 20 per cent of the consumers distributed their purchases over 138 analyses, or an average of 133 tons per analysis. It would seem from this that there is an overwhelming argument for fewer analyses and also that a large percentage of the consumers are satisfied that it is not necessary to have a special fertilizer for every conceivable crop that may be grown in the State.

There are several very definite provisions under the Federal code of competition for the fertilizer industry. I shall refer mainly to those that will doubtless affect the purchasers of fertilizer and omit for most part references to features that pertain to the manufacturer only.

In the first place, the entire country is divided into regions and zones. Within each region certain trade practices and wage requirements will be enforced. Each region may be divided into several zones for the pur-

pose of administration of the act and also for the purpose of securing uniformity in the number of fertilizer analyses that would logically be included in the trade. Maryland is in the northern region and in Zone 3. In addition to Maryland, Zone 3 includes Delaware, the District of Columbia, Virginia north of the James River, and that portion of West Virginia known as the B. & O. Section.

Secondly, every effort will be made in each region to maintain as low a number of fertilizer analyses as is practical for the crops grown in the area.

In the zone in which we are located there has been adopted temporarily 20 analyses for use during the coming spring trade. These analyses will be given a trial and doubtless many of them will be made permanent after July of this year. Some substitutions may be made in this program at that time. The complete list is as follows:

2-9-5 *	0-12-5*	2-12-4*	4-8-12*	0-20-0
0-16-0*	1-10-5	4-8-10	2-12-6	4-12-4 **
6-6-5 *	4-8-7 *	5-8-7 *	3-12-6*	0-10-10
4-8-5 *	2-8-10*	3-8-10*	5-10-5**	4-16-4

With the exception of the 2-9-5, those marked with a single star have been in the Maryland recommended list for a number of years. The 4-8-12 is a special tobacco fertilizer. Two other analyses that have been used to a considerable extent on lawns and pastures are the 5-10-5 and the 4-12-4. Most of the other analyses appearing in the list of twenty are manufactured in this zone, but generally sold outside of the State.

Third, it will not be lawful to sell any fertilizers that are not included in the prescribed list except under special provisions in the Act.

Any individual desiring a fertilizer analysis other than that found in the prescribed list will be able to secure it if he is willing to pay all of the costs connected with producing it. This means that the consumer may find it necessary to pay the registration fee and also the cost for special printing of bags and labels. In fact, it will not be lawful for any firm to charge less than the full cost.

Fourth, it will be necessary under the code to eliminate all low analysis fertilizers in order to remove some very undesirable features of trade competition. It is not probable that any fertilizers having less than 16 units of plant food will be included in the final list.

In the past, fertilizer agents were compensated for their work on the basis of the tons of fertilizers sold. It was to their interest to sell as many tons at a low price as possible. Under the code, agents must be paid a salary. There will be no inducement whatever for an agent to try to sell a low grade fertilizer. Neither will it be possible for him to engage in any trade practices that will make deceptive allowances in regard to warehousing and shipping, a practice that has been very annoying to the honest fertilizer dealer in the past.

This, in brief, is the situation under the new fair trade code. The question arises as to what the farmer's attitude and activity should be under this new arrangement.

In the first place, there does not seem to be anything in the new code that should react unfavorably on those who buy the fertilizer, unless a somewhat higher scale of price should be considered in that light. It will be necessary for the fertilizer manufacturers to pay higher wages than during the last few years. The replacement of equipment will be more expensive for them than in the past. Just how much of this can be absorbed in factory economies and the elimination of non-profitable but expensive trade practices, I have no way of knowing. I doubt very much whether it will be necessary to pass to the consumer all of the increase in labor cost. As I see it the new arrangement under the code is deserving of our support. If any feature of it seems to be unfair to those of us who buy fertilizers, we will have the opportunity to lay complaints before the proper persons.

It would seem that the market gardeners as well as the grain farmers should go over the list of analyses that will be offered by the trade. They should select from this one or two analyses that seem best to meet their needs. This fertilizer should be purchased as a stock material. If for some special reason more nitrogen or more potash seems to be needed, then this should be supplied as a special side dressing to the crop or should be mixed with the stock material which has already been purchased.

The question has already been raised about buying the materials and doing the mixing at home. There will be only two factors in this connection which, I think, need to be considered. First, will it pay to do so? and secondly, will it be possible to make a satisfactory mixture with the equipment ordinarily found on farms? Perhaps, after all, this is only one factor, as they are very closely related. Hand mixing can be just as thorough as machine mixing, but the labor cost, as a rule, is very much higher. It is a problem worth considering by every grower and one in which careful calculations should be made.

We have made literally thousands of determinations on the lime, phosphorus and potash requirement of Maryland soils during the last few years. Almost invariably we find these soils low in phosphorus. Grain farmers particularly and farmers who grow such legumes as alfalfa should pay especial attention to both the lime and phosphorus needs of their soil.

Dairymen in the past have purchased large quantities of concentrated feed materials. Most of these concentrated feeds are rather high in nitrogen and potash. During the last two or three years the dairymen have made a very commendable effort to grow as much of their feed requirements at home as possible. A reduction in the use of concentrated feeds has likewise resulted in a manure on the farm that is somewhat lower in nitrogen and potash than was the case a few years ago. On

dairy farms where the crop area is not too large and where the manure supply is abundant (perhaps 8 to 10 tons per acre for the corn land) the fertilizer may be low in nitrogen or may be even without nitrogen. I think this group of farmers could well select a 2-12-4 or an 0-12-5 fertilizer. I mention this particularly in this meeting because many truck farms approach the dairy farms insofar as supplies of manure are concerned. Either of these fertilizers could also be used as "stock material," to which might be added nitrate, sulphate and potash in order to provide for the special needs of any crop.

To farmers who have been using low grade goods and who justly feel that their farming operations will not warrant the extra cost of high grade fertilizers, there is one very positive advice which may logically be given them. For example, there is no difference in the relation between nitrogen, phosphorus and potash in a 2-8-5 or a 4-16-10. In fact, 200 pounds of 4-16-10 would give the same results as 400 pounds of the 2-8-5. Their problem, therefore, is to select a fertilizer and then determine how much is needed in order to secure the same amount of plant food per acre that they had with another fertilizer which may no longer be available on the market. What the situation will be in the future regarding the relative price can not be foretold. In the past, however, the high grade fertilizers have always been cheaper per unit of plant food than the low grade fertilizer.

It seems to me that there has never been a time when truckers and others should make a closer study of the results secured by the research organizations which are available to them. For a given list of crops there is available to each and every one a great fund of information concerning the fertilizer requirements. In adjusting the production program to the new fertilizer manufacturing control program, these results should be fully consulted and the selection of analyses should be made on the basis of type of farming that is practiced, together with the requirements of all of the crops grown in the farming system.

SOME NEW VEGETABLE INSECTS

ERNEST N. CORY

State Entomologist

Vegetable Weevil (*Listroderes obliquus* Gyll.)

This pest first made its appearance in this country in Mississippi in 1922. It has since been found in Florida, Alabama, Louisiana, and California. It has been recorded at various times as the Australian tomato weevil but the native home of this pest is probably South America, as it was described from Brazil by Gyllenhal as early as 1834. It is variously known as the tomato weevil, the buff-colored tomato weevil, the carrot

weevil, the brown vegetable weevil in Australia, and in this country as the Australian tomato weevil, the dirt-colored weevil, the turnip weevil and simply as the vegetable weevil.

The wide variety of food plants that this insect utilizes seems to indicate that the common name of vegetable weevil is more appropriate than any other, but turnip weevil has been officially adopted. It feeds in both the adult and larval stages. As an adult it feeds mainly in the spring and early summer on the following plants, apparently preferring them in the order named: corn, potatoes, tomatoes, pear foliage, turnips, carrots, spinach, wild parsnip and milk thistle. The larvae feed on the following plants, their preference apparently being for spinach, carrots and turnips: Swiss chard, beet tops, radish leaves, cabbage plants, parsley, parsnips, potatoes, tomatoes, lettuce, and several weeds including *Malva*, *Amaranthus*, *Rumex*, wild parsnips and milk thistle.

There appears to be but one generation a year and the various stages overlap considerably in the South and in California. Just what the seasonal history would be in Maryland is in doubt, but presumably the weevil would hibernate largely in the larval stage, pupating in early spring, the adult issuing in late spring and early summer. In due course eggs would be laid over a long period. The larvae hatching from these eggs will probably feed until cool weather. There is, of course, a distinct probability that this weevil may be introduced into Maryland, either in packing material as an adult or even possibly as larvae within the crowns of infested plants or in cells gouged out of the roots.

The adults and even larvae are more likely to feed during the night than during the day as they apparently work better in the absence of light or on dull days. A heavy infestation is capable of destroying completely a field of spinach or a crop of carrots or turnips by injury to the crowns and destruction of the leaves. Ordinarily, the weevil does not spread very rapidly as it is not a strong flyer.

Control of this weevil on crops that can be treated with arsenate of lead or calcium arsenate is relatively simple, but in the case of crops the leaves of which are to be used for food, it is obviously impossible to use a poison. Some success has attended the use in California of poison baits, particularly baits made up with fruits, such as dried apples and magnesium arsenate, a combination that has been used successfully against the strawberry root weevil in the Pacific Northwest. Two pounds of dried apples and one and a half to two ounces of calcium arsenate or magnesium arsenate ground up together and slightly moistened will attract many of the weevils. Crop rotation where practicable can be used to advantage, and thorough cultivation in early spring to destroy the pupal stage has been found effective, as the pupae are very tender. Cultivation against the larvae is relative ineffective as they are much tougher in structure and construct new larval cells when the original cells are broken up by cultivation.

Tomato Pin Worm (*Gnorimoschema lycopersicella* Busck)

The tomato pin worm is a near relative of the potato tuber moth and like it has been considered normally a tropical or sub-tropical pest. We know, however, in the case of the potato tuber moth that it can exist and do serious damage in temperate regions. We have records of the potato tuber moth damaging tobacco in Wisconsin, as the tobacco split worm, and it has done serious damage for several years on the Eastern Shore of Virginia and for two years has done serious damage on the lower Eastern Shore of Maryland. It has done serious damage to potatoes in isolated instances in Frederick, Prince George's, Calvert and St. Mary's counties to potatoes. Therefore, you might expect the tomato pin worm to follow somewhat the same history and this seems to be borne out by recent discoveries of the worm in the East. The pest is normally considered to be a native of Mexico. California workers, where serious damage has been done to tomato crops in several localities attribute the entry of the pest into California to shipments from Mexico. In recent years the pest has developed in three areas in Pennsylvania, first apparently around Kennett Square, where tomatoes are grown as a greenhouse crop. According to Dr. Guyton, there are two other areas in Pennsylvania where greenhouse tomatoes are grown and in each of these areas the pin worm has made its appearance and has done serious damage to greenhouse grown tomatoes. These two areas are around Erie, Pa., and about 75 miles south along the Ohio border. In the sections where it has occurred in greenhouses, it has been found outdoors doing only limited damage, however, on the outdoor crop. In California records of injury range from moderate damage to such severe damage that fields have been abandoned.

The injury consists of the entry of the larvae immediately beneath the calyx through a small opening, approximately the size of an ordinary pin. Most of these worms bore into the core and not directly into the fruit. The eggs are laid singly or in clusters of three to six on the leaves and fruit. Leaf injury consists of the formation of a blotch mine in the leaves, which is later abandoned and the larvae then roll the edge of the leaves, feeding on the epidermis within this tube until all the available epidermis is destroyed, when they proceed to roll up other edges of the leaf. They are also known to enter and feed in the stems, particularly in the late season when the fruit is scant and the infestation has become quite heavy. The full grown larvae is green with purplish markings, approximately one-half inch in length. The adult is a small inconspicuous dark gray moth. Morrill reports a fair degree of control by dusting with calcium arsenate.

There is a distinct possibility that this pest may be brought into the State on infested fruit and become established in that way or that the pest may spread from the Kennett Square area into Delaware and later

into Maryland. The Bureau of Plant Quarantine has felt that no quarantine action should be taken against this pest or the vegetable weevil, and, therefore, time alone will tell whether Maryland growers will face the necessity of combating this insect, along with the many native pests.

Parsley Mite (*Phyllocoptes* sp.)

During the past summer parsley was sent to the College from Howard County heavily infested with a mite that belongs to a group that up to the present time has been in such a chaotic condition, from a taxonomic standpoint, that no specialist has been able to do more than determine the mites to the genus.

Injury that this mite does appears similar to that caused by thrips on greenhouse crops and in heavy infestations the groove in the stem of parsley is likely to contain many mites. Apparently major injury is done in the early stages when the leaves are unfolding. By the time the leaves were sent to College we found the mites on the mature leaves in considerable numbers.

Sulphur dust ought to be effective in controlling this pest as sulphur is a specific acaricide.

Pomace Fly or Vinegar Gnat (*Drosophila* sp.)

In late July some tomatoes canned in Maryland during the season of 1932 were found to contain a few larvae of the common vinegar or pomace gnat, an insect that is normally present wherever fermenting vegetable material is present. Investigations were begun in early August on this pest and it was found that eggs and larvae were present in cracked fruit in the fields and consequently when these tomatoes were taken to the factory, the infestation developed in proportion to the length of time that the tomatoes were held in the packers yard. Quantities of the gnats are usually present at the factories also, but since three to four days is required for the hatching of the egg and since tomatoes are seldom held over three days, infestation from that source is unlikely.

Efforts to control this pest centered in the past season about methods to eliminate the maggots from the fruit before it went into the cans by a careful system of culling, washing, followed by further culling before scalding and washing immediately after scalding. In spite of these precautions, where the infestation was heavy some larvae gained access to the packed goods. It was felt, however, that by buying tomatoes on Federal-State grades, coupled with the culling and washing at the factory, practically all of the maggots can be eliminated from the canned product. Investigations of other methods in the field and factory will be pursued during the coming season.

CODES FOR POTATOES AND OTHER CROPS

By DR. T. B. SYMONS

Director, Extension Service, University of Maryland

I am pleased to discuss with you informally some of the proposals for codes and marketing agreements that are now being considered and which will affect various vegetable crops. I think we should understand first that no vegetable crops were included as basic crops in the Agricultural Adjustment Act and, therefore, we cannot expect to have the Federal Government carry on any programs for reduction of these crops as is the case with corn, wheat and other basic crops. It only remains for certain vegetable interests to consider the question of marketing agreements where the trade itself, under the auspices of the Federal Government, would endeavor to regulate the flow of products to the market.

For five years Maryland has been associated with the Inter-State Early Potato Committee where we have endeavored voluntarily to give to potato growers of the Eastern Coast, extending from Florida to New Jersey, some idea of the prospective acreage and crop from year to year. We feel that commendable progress has been made in the early potato industry. This effort followed the disastrous year of 1928 when hundreds of acres of potatoes were plowed down and there was a great glut of early potatoes on the market. We know that this country cannot consume more than 6,000 carloads of potatoes per day during the early season. Through the efforts of this committee we have tried to keep the growers informed concerning the prospective crop. Our potato growers enjoyed a good season the past year with good prices because of the low average yield. The annual crop average of 98 bushels per acre in 1933 was the lowest since 1919. Analyses showing farmers' response to change in the price level of their product clearly indicate that the good prices of last season will initiate another period of acreage expansion, the full effect of which may not be apparent until 1935. There is no doubt that growers of all crops should keep thoroughly informed of the anticipated crops so as to prevent an over-production.

As for codes, these necessarily come under the NRA jurisdiction and the Federal Government. They provide for reasonable hours and reasonable wages and tend to prevent unfair practices in the trade. I have here a code that is proposed for the wholesale produce dealers. Various features of this code will apply to the produce dealers in Baltimore and other markets of the country. It does not have any relation to the producer as such. It simply is a means of preventing many unfair practices that have existed in the trade and it is an effort on the part of the enlightened business interests of the producers' trade to correct various forms of unfair practices. It also tends to pay uniform wages to those employed by the commission men and other similar dealers. Agricultural labor is exempt

from NRA jurisdiction, so I do not believe that we should attempt to consider codes affecting various phases of the producer.

There is a matter of extreme importance affecting our vegetable interests, namely the proposed codes for the canning industry and proposed marketing agreements pertaining to canning crops. Recently I was asked by the Federal Administration to call a conference of growers and canners to consider various factors surrounding the tomato canning industry, the thought being that we may be able to prepare a marketing agreement that will be of lasting benefit to the industry as a whole. After general discussion of the matter, both growers and canners agreed that growing tomatoes without contract, or the open acreage problem, in the Tri-State territory had serious effect upon the industry as a whole. After rather careful consideration, both the growers' and canners' representatives agreed that the contract basis of raising tomatoes was most desirable for the stabilization of the industry. We should submit recommendations of this committee to the Farm Bureau Federation for consideration at this meeting.

The following are the resolutions adopted by our committee:

WHEREAS, the production of tomatoes for canning, and the canning industry in Maryland, and, to an extent in the United States, are in an unstable condition, and

WHEREAS, the buying and selling of tomatoes for canning on the open-market is considered an unstabilizing influence on the industry, and

WHEREAS, the indications are that the production of tomatoes for canning in Maryland in 1934 will be in excess of the market demand, and

WHEREAS, an improvement in the quality of raw stock is essential for the maintenance of the industry in Maryland; therefore be it

Resolved, That we believe the purchase of canning tomatoes on a contract basis is in the interest of the industry and desire that some action be undertaken to put the industry in the United States on this basis; and be it further

Resolved, That we believe a certain amount of acreage control will be beneficial to the industry if the system is applied to all tomato-producing sections in the United States; and be it further

Resolved, That we believe the method of allotment proposed by the Wisconsin pea canners would be fair for an allocation of tomato acreage; that is, the three largest yields from the last ten-year period would be used for a base par; and be it further

Resolved, That this group recommends buying and selling of cannery tomatoes on the basis of U. S. Grades.

I believe the Vegetable Growers' Association should consider this matter and give an expression as to their feelings in the matter. The proposal will then be sent to Washington with the hope that both the farmers and

canners at large may be able to agree with the Secretary of Agriculture upon a marketing agreement that will be of lasting benefit to the industry. Certainly, we know if nothing is done a greatly increased open or non-contracted acreage will be planted in our State the coming year. While it may be difficult for some farmers to contract, especially those who have been growing open acreage for the past few years, yet if we can arrive at a fair price to the producer, I believe that most all of our people will appreciate the advantages to be gained by a contract.

It is possible that we should consider other vegetable crops along similar lines. For instance, we know that we frequently have an over-planting of spinach in this territory. It should be entirely possible for us to make a study of the market demand for spinach and perhaps regulate our acreage in accordance with that demand. The same would apply to sweet potatoes and other crops. In mentioning sweet potatoes, I think it would be well to bring to the attention of the Association the preferred position in which our State stands in connection with this crop. One county in our State raises more sweet potatoes than perhaps any other county in the United States. There is an effort being made to introduce the sweet potato into European markets. This is a very laudable effort and I wish we had some funds that we could devote to this proposal. Certain interests on the Eastern Shore are endeavoring to send a small lot of sweet potatoes to England with a view to educating the public in the advantages of this splendid vegetable.

We can expect an increase in wages the coming year so I believe that great care should be exercised by the vegetable growers in planting their acreage of the various crops. Notwithstanding the effort to aid agriculture and controlled acreage in many of our national crops, the fact remains that quality and economical production will continue to be the leading factors that will govern the return that the farmer will receive from his crop.

The problem of insect and disease control is as apparent today as ever before and it will always remain that the farmer will be able to do more toward helping himself and following good practices on his farm in raising these crops than can ever be done by legislation or otherwise to bring returns from a crop after it leaves his farm.

The question of good seed is ever present with us in the vegetable industry and there is no doubt that we should be doing much more than we are toward safeguarding our seed supply. We are proud of the record we are making in the development of certified seed potatoes, on the Eastern Shore as well as Western Maryland. We have felt for some time that Western Maryland can produce certified seed in quantities sufficient to supply the Eastern Shore's demand, as well as other sections of the State. It is wonderful to observe the results from the efforts of our specialists in cooperation with the growers in the production of certified seed.

I believe that we are on the up-grade, that 1934 holds out much promise

to the farmer and I trust that the vegetable grower will benefit largely by the improved conditions in industry for, after all, perhaps the vegetable grower is more dependent upon the purchasing power of the consumer than any other phase of the agricultural industry. He has a big investment in the production of specialty crops and is unable to hold the crop over the seasonal market period.

I hope you will feel that the Extension Service and our specialists stand ready to assist this industry in every possible way.

Second Session

Thursday, January 11, 1934

WHAT THE CONSUMER WANTS

By S. B. SHAW

University of Maryland

Many of the members of the Maryland Vegetable Growers' Association are interested in selling their products on either the Washington or Baltimore market, and undoubtedly would like to know something of the consumer's attitude concerning the purchase of such products.

In conjunction with the development of the Maryland Farm Roadside Market Association, a consumer's survey was conducted recently. The results of this are interesting and should prove beneficial in helping our producers to meet more nearly the desires of these consumers.

It was believed that the questionnaire should be sent only to those people owning automobiles, for it is this class that has easy access not only to city markets, but also to country markets. Names were selected at random from the automobile register of both cities and approximately 6,000 questionnaires were sent. In the 20 per cent which replied, more than 150 businesses, trades and professions were represented; consequently, this is a fairly representative group of consumers from both cities.

For the most part, purchases of farm products were made weekly, and over 75 per cent of the people were of the opinion that direct purchasing from the producer is satisfactory. Over 60 per cent preferred locally grown products. Among other questions asked was one pertaining to the buying of oranges, bananas and other fruits not grown in this territory. In Washington 60 per cent of the people said they would buy such fruit from nearby roadside stands or trucks. In Baltimore only 26 per cent indicated the desire to buy such products from roadside markets or trucks on the street. Over 90 per cent of the people in both cities expressed a preference to buy from roadside markets or stands or trucks operated by real farmers.

Several things of unusual interest were brought out in the replies to this questionnaire, one of the most outstanding of which was that in the majority of instances people were interested in the nearby products chiefly because of freshness. They were also interested in values to the extent that they did not mind paying the producer prevailing retail prices for such products provided they are well graded and of fresh quality.

It was interesting to know what caused passing motorists to stop at

particular roadside stands. In both cities the reason given most frequently was "display," indicating that consumers are much interested in the appearance of the products offered for sale. This is especially true when it was shown that the products most in demand from roadside stands are fruits and vegetables.

While the results of the roadside market survey may not apply directly to the larger truck growers, it is believed that the information obtained might well be given careful consideration not only by the small market gardener, but by the larger producer as well. It was indicated clearly that the majority of consumers are interested in a wide range of locally grown fruits and vegetables, and that the thing which is of outstanding interest to them is the general appearance and freshness of the product.

Maryland growers can well take advantage of this fact, particularly those who are so located as to be able to furnish to the consumer in both these cities the very freshest of products. With little care, they can be offered in a most attractive manner. This study of consumer preferences indicated very clearly that there is no place on the market for cull products. Consumers want a wide variety and are perfectly willing and desirous of using nearby produce, but they want the same fresh, well-graded, and offered at a price which is reasonable and in line with prices of similar commodities from other sections.

SOME RECENT EXPERIMENTS WITH VEGETABLES

By T. H. WHITE

Maryland Experiment Station

There has recently developed an interest in the production of new strains of sugar corn. Corn breeders have found that when certain inbred individuals are cross pollinated the progeny resulting are more vigorous and disease resisting than the open pollinated types. Of the different varieties of value for the early market two of the best were Golden Crossed Bantam and Red-Green Hybrid. These are sugar corns and when planted on April 18 did as well as the starchy field corn type, such as Adams Early. Red-Green Hybrid was also resistant to smut, and corn ear worm.

A test of the early cabbage varieties resistant to yellows confirms the value of Marion Market, a flat head green cabbage, as being almost immune to yellows and a variety of good type. All Seasons is also yellows resistant, but is larger and later, and apparently not quite as uniformly heading as the Marion Market. Where gardeners have been having trouble from diseases in the cabbage patch, these two varieties are recommended. Jersey Queen, a cabbage of the "sharp head" or conical type, which was developed to take the place of Early Jersey Wakefield in yellows soil, does not seem to be quite as vigorous and hardy as the Wakefield.

Sweet potatoes make two kinds of roots, fibrous roots and storage roots.

The storage roots are the commercial kind sold for human consumption. A good crop is secured when the storage roots are numerous and large. Some experiments indicate that the methods of planting and fertilizing have a distinct influence on the development of the type of roots. Plants set at a level where the soil was continually moist, or wet, so that the plants grew well, failed to develop any storage roots, while plants set at a higher level so that the upper roots were in dry soil, developed the large roots. Thus, it would seem that setting the plants on a ridge would be a good practice in soil likely to remain wet, or on any soil during a wet season. Commercial fertilizers, for the sweet potato crop, have been under suspicion as being the cause of poor stands, so that now many growers set the plants and apply the fertilizers later.

An experiment using one thousand pounds per acre of a 6-6-5 commercial brand, considered applying the fertilizer in three ways: (1) In the row and ridging the soil over it; (2) Drilling into the soil broadcast; and (3) Applying a week after the plants were set. Losses from the death of plants were 21 per cent on the rows, which were ridged up over the fertilizer; 12 per cent where the fertilizers were drilled in, and 7 per cent when fertilizers were applied after planting.

Some experiments using one of the elements as a topdressing after planting indicated that the fertilizers had some effect on the development of storage roots. If divided applications would not be too troublesome, it would perhaps be well to apply the phosphoric acid before planting and the nitrogen and potash after planting. Of the different nitrogen carriers used in the experiment, nitrate of soda seemed to have the most marked effect.

In the asparagus experiments relating to the setting of plants in wider or closer spacing, in which five feet by thirty inches was the widest and four feet by twenty inches the closest, the closer spacing has, so far, uniformly yielded more than the wider. The records are from a bed which has been producing for six years. Our standard mixture of fertilizer for asparagus is 400 pounds of nitrate of soda, 200 pounds of 16 per cent super-phosphate and 400 pounds of kainit. These amounts are applied per acre. Three years ago these amounts were doubled on one of the plots. The result has been an annual increase of 10 per cent.

The addition of organic matter to soils is well known to be of considerable value. When stable manure was plentiful, this was not a difficult problem, but since this material has become almost unobtainable much thought has been given to supplying this need. On the larger farms, where a rotation which allows a field to remain for a couple of seasons in grass and pasture can be practiced, the grass and clover roots, as well as the droppings from the animals grazing the land, will provide quite a lot of organic material, but where the land is in a crop most of the year, as in market gardens, the problem is not as simple.

Catch crops can be sown and turned under, but obviously this can not

be as beneficial as material supplied from outside sources. The Chinese peasants are said to be at great pains to supply their rice fields with organic matter. Soybeans grown on the banks between the beds, weeds and young branches secured from the wild lands and the waysides are gathered and laid between the rows of rice, in the wet soil, and pressed in with the bare feet.

Along this line, an experiment using soybeans grown on another plot and applied to a rhubarb patch as a mulch during winter has been very beneficial. Also on other plots the soybean plants have been applied during the winter and plowed under in the spring. Sweet potatoes were planted on these latter plots, with the result that the yields were doubled. In using soybeans for this purpose they are allowed to grow until near frost, at which time they are quite full of seeds. They are cut and raked into windrows and applied at any time during the late fall.

Aside from the fact that the soybeans supply a good deal of plant food when decayed, they also supply gases and acids which help to keep other plant foods in the soil in an available condition for the plants. One and a half to two tons of air dry material can be secured from an acre of fairly good land.

Round Table Discussion

Mr. F. Ridgely Todd, of Sparrows Point, Maryland, introduced for discussion a number of problems confronting the truck grower. Of special interest was the possibility of developing strains of beans resistant to blight, anthracnose and root rot. One of the difficulties, as brought out by Mr. Hunter, is to find strains resistant to all these troubles. A strain may be highly resistant to anthracnose and yet succumb to fusarium.

Another problem of considerable interest was that of better control for aphids on spinach.

Maintenance of soil fertility in the growing of truck crops was given some consideration.

Improvement of marketing and distribution of vegetable crops and the probable effect of codes and market agreements in relation to the trucking business provoked considerable discussion.

At the conclusion of the discussion, the president called for reports from committees.

The committee on nominations presented the following names:

President, William N. Eyler, Flintstone; vice-president, A. M. Todd, Sparrows Point; secretary-treasurer, W. R. Ballard, College Park.

Board of Directors—F. Ridgely Todd, Sparrows Point; R. T. Merritt, Dundalk, Md.; J. R. Fitzell, Sparrows Point, Md.

Director for Farm Bureau Federation—Joshua Lynch, Hyde, Md.

Representative for Agricultural Corporation—G. W. Lynch, Dundalk, Md.

By motion the secretary was directed to cast the ballot of the Association for the members as named to serve as officers for 1934.

A. M. Todd, for the Auditing Committee, reported that the Treasurer's books were in order, with a balance in hand as of December 31, 1933, of \$13.20.

The Resolutions Committee presented a resolution expressing the sympathy of the members in the tragic death by automobile accident of the Vice-President, S. S. Merritt, Jr., and directing the secretary to transmit a copy of the same to the bereaved family. The resolution was adopted.

Potato Show

Reduced premiums and curtailed classification had a depressing effect on the exhibit of certified seed potatoes held in connection with the annual meetings. However, there were 21 entries and the awards were as follows:

CLASS IX—COMMERCIAL

- First Prize—L. L. Miller, Accident, Md.
- Second Prize—Paul Miller, Accident, Md.
- Third Prize—Howard Burtner, Keedysville, Md.

CLASS X—SMOOTH RURAL

- First Prize—Raymond Schlosnagle, Accident, Md.
- Second Prize—Harold Bittinger, Oakland, Md.
- Third Prize—Howard Schlosnagle, Accident, Md.

CLASS XI—RUSSET RURAL

- First Prize—Boyd Hardesty, Hutton, Md.
- Second Prize—Ray Geary, Grantsville, Md.

CLASS XII—ANY OTHER VARIETY

- First Prize—John R. Jehle, Hyattsville, Md.
- Second Prize—William Simpson, Clarksville, Md.
- Third Prize—Samuel Hearn, Laurel, Md.
- Fourth Prize—Wm. Cissell Simpson, Clarksville, Md.

CLASS XIII—SWEET POTATOES

- First Prize—William P. Hotton, Salisbury, Md.
- Second Prize—Egbert H. Hawkins, Harman, Md.
- Third Prize—John Jehle, Hyattsville, Md.

REPORT
OF THE
Maryland Stockmen's Association
FIFTH ANNUAL MEETING
January 10, 1934
Baltimore, Md.

The fifth annual meeting of the Maryland Stockmen's Association was held at Baltimore, Maryland, on January 10, 1934. The morning session was called to order by Mr. J. W. Jones of Montgomery County, President of the Association. Mr. Jones briefly addressed the meeting as follows:

PRESIDENT'S ADDRESS

J. W. JONES
Montgomery County

Ladies and Gentlemen: It is, indeed, a pleasure to see so many here for our morning session. Last year at our first session we had only a handful, though later we had a good attendance. This year we seem to be starting off with a really good attendance at the very first part of our first session. The printed program states that I am scheduled to deliver an address. The few remarks that I shall make scarcely deserve to be called an address, but there are some things which seem to be worth considering for a few moments.

The past year has been one which carried many problems. I do not know of any time in the history of the Association when our livestock problems have been more difficult to solve than during the past year. It seems certain to me that we are closer to our goal now than during the most difficult times of recent months.

In the old days, stockmen were the *elite* of the whole country. We were "it" in the old days. Recently, economic conditions have become such that we get little for our products in proportion to what we have to pay for the things that we buy. That is a condition which I hope will be changed before long.

If, instead of getting only about 35 cents of the consumer's dollar, we could get 65 cents and let the distributors get the 35 cents, our status would be much improved. Moreover, the status of the consumer would be as good as now, and I think the reversed apportionment of the division of his dollar would meet with the consumer's hearty approval.

In the matter of marketing wool, I believe that the cooperative sale of

wool through the instrumentality of the United Wool Growers' Association has resulted in substantial advantages to sheepmen. Some wool was sold independently last spring at prices far below the price received by the United Wool Growers' Association for wool pooled and sold through it. The price secured by the United was 39 cents per pound in 1933. I am sure that all whose wool they sold have been satisfied. I do not know of any example of effective cooperative action that is more striking than that furnished by the United Wool Growers' Association. It is probable that they will handle a larger volume of wool in 1934 than in 1933. I have wanted to call this important development to your mind in the hope that you will profit through knowledge of it.

Later in our session you will hear from Mr. Skeffington about cooperative marketing of livestock on the Baltimore market, and I shall not undertake to discuss that subject at this time.

Animal production in Maryland is an important branch of the State's agricultural activities. Persistent and intelligent effort is needed if we are to secure from the livestock industry the profits that it should yield. To make the industry more efficient, so that there regularly will be an abundance, but not an over-supply, of livestock products, and to help promote conditions which will provide a fair income for producers of farm animals constitute the worthwhile job of this Association. I like to believe that we are making some contribution to progress in this direction.

One of my friends from Montgomery County reminded me that I am not supposed to talk for more than five minutes, and, as we have a full program ahead of us, I will close my remarks for the present, and we will go ahead with the program.

President Jones then called on B. E. Carmichael, Secretary-Treasurer of the Association, University of Maryland, for the annual report of the Secretary-Treasurer, which follows:

REPORT OF THE SECRETARY-TREASURER

B. E. CARMICHAEL
College Park

Mr. Chairman and Gentlemen: The past year has been about a normal year for the Maryland Stockmen's Association, except that the membership has fallen off, due, no doubt, to the general business situation and to the intentional lack of a strenuous drive to induce farmers to pay membership fees. It is hoped that the current year will see a revival in the livestock industry and an increased membership in this organization.

The Purebred Ram Sale project showed considerable life, and, with improved wool prices and strengthening lamb prices this year, there seems to be good reason for hoping that this work will go forward in 1934 with

even more than average vigor. A more detailed report of the Ram Sales will be made later by Mr. Clark.

The Maryland Litter Contest was relatively small this year, only five litters being entered and but two of them coming through the 150 days to a weight of at least 1500 pounds. This contest will receive more attention tonight when prizes will be awarded.

The *Monthly News Letter* has been issued twelve times during the year. Your secretary is not satisfied with the character of this *News Letter*, and urges all members to lend a hand for the purpose of giving it added interest and value, if its publication is to be continued.

The financial report follows:

FINANCIAL REPORT MARYLAND STOCKMEN'S ASSOCIATION January 10, 1934

RECEIPTS:

Balance, January, 1933, meeting.....	\$217.02
Memberships, 1933.....	42.00
Memberships, 1934.....	2.00
Dinner-Meeting tickets, 1933.....	63.00
Total, balance and receipts.....	\$324.02

EXPENDITURES:

Miller Bros. for banquet.....	\$88.00
Headquarters room, Lord Baltimore Hotel.....	4.60
University of Maryland Press, banquet tickets.....	1.50
Dr. M. C. Hall, expenses.....	1.50
Hennegen-Bates, engraving trophy	1.75
Expenses, M. Lucille Hardiman, reporting meeting.....	1.20
Pearson & Crain, engraving cup.....	1.25
University of Maryland Press, printing.....	3.00
University of Maryland Supply Store, supplies.....	3.00
Farm Bureau Federation, annual dues.....	20.00
University of Maryland Supply Store, paper.....	2.70
Stencils	5.96
Baltimore Drivers and Traders Journal, for members	2.25
University of Maryland Press, printing.....	4.75
Stamps, for checks.....	.28
Deficit on ram sales.....	.02
Total expenditures	\$141.76
Balance, January, 1934.....	\$182.26

Outstanding account—Uncollected returns from Ram Sale.....	\$17.00
Total assets	\$199.26

After an appropriate motion was made, seconded, and carried, the report of the Secretary-Treasurer was accepted.

President Jones then announced the round table topic: "Some 1934

Problems and Prospects," and, introducing Mr. W. H. Cunningham of Washington County, called upon him to open the round table discussion using the sub-topic "Horses" for his subject. Mr. Cunningham spoke as follows:

HORSES

W. H. CUNNINGHAM

Washington County

Mr. Chairman, Ladies and Gentlemen: Brother stockmen, I am very proud that the horse has a place on the program at this meeting, but I am not proud that they called on me to talk about horses. I would much prefer to take hold of the checkrein and take the horse out to the show ring and show him, than get up here before a crowd like this and talk about him.

Nevertheless, I will endeavor to give you a little of my experience. It may not interest you for me to go back twenty-seven years, but I am going back to where I started with a pair of purebred fillies which I had imported from Belgium, the first pair of Belgian mares that had come to my county, Washington County, and I was very proud of them. I was very much criticized by our farmers; some said "He has saved a couple of dollars and now he is going to fool it away. Who ever heard of a man paying \$1,200 for a pair of fillies?" They had never heard of it in Washington County, but I am an Irishman, and I decided to do it anyway.

I bought those mares. I might state here that what brought into my mind the idea of purchasing a pair of purebred mares was that I owned two shares of stock in a purebred stallion company. Fourteen of us owned the horse, and I had two shares of stock at \$200 a share. The thought occurred to me, if America is the greatest country in the world, why can't we produce as good horses as Belgium or France? I asked A. J. Hayes, the man who sold the imported stallion, what a pair of purebred fillies would cost me, and he said, "I will lay a pair down at your farm for \$1,200." Well, that knocked the props from under me, but, if we paid \$2,800 for the horse, I thought I might pay \$600 apiece for the mares, and then I thought I could produce just as good colts as we had been buying. I went to New York and led the mares down the running plank off of the boat Mohawk.

Well, I brought them home and kept them until seven or eight years ago, and I sold \$18,000 worth of colts, not directly from those mares, but from them and their daughters. Now, I will leave it to you as to whether I made a mistake or not. I had a bad misfortune befall my horses when I had twenty-six head of registered stallions and mares develop an eye disease. I purchased a very fine stallion. Eight months after I bought him he developed this eye disease; ten months thereafter, five of my best mares developed the same trouble. There is no doubt in my mind but that the stallion carried it to my mares. It cost me at least \$10,000

before it was over, but still I had sold descendants of those mares to the value of \$18,000.

That brings up to where I had discontinued breeding, although I still have five purebred mares down on my farm, and I hope in the near future to buy a pair of the best I can buy. I hope to do that, and I am going back into the business again. I do not think there has ever been a time in my life when there were better prospects for a man to do well with a pair of purebred mares on his farm than now. I think that if more of us had started with the purebred stock when I did, Washington County would be on the map now as one of the finest horse-producing sections of Maryland, in fact, of the whole United States.

I think I produced some horses as good as were produced anywhere in this country, or as ever came from Belgium. I produced one stallion—talking about size—in his best he tipped the scales at 2,375 pounds. I never sold any for as high an amount as our company paid for the one we had bought. That fellow sold us that horse for \$2,800. The best price I got was for a two-year old colt; he tipped the scales at 1,750 pounds then, and I sold him for \$1,200 at the stable. I sold one horse to a man who is in the room now, Mr. Charles Shafer. I wish he would stand up. I sold him the first stallion that ever I sold. He came and wanted to buy this stallion, and I priced it at \$1,000. He said he did not want to buy my outfit, only one stallion. I told him that I had paid \$2,000 for his sire, and I thought I ought to get one-half as much for this horse. Well, he bought the horse, and I said, "Are you really buying this horse yourself?" and he said, "I am going to start like you did." So, I just decided to make him a present of \$50; I threw in the saddle and bridle and sold him the horse for \$950, and I said, "I am going to do that because you showed me more nerve than I have ever seen in anyone but myself when I broke into the game."

I have been talking about the past. Now I want to talk about the present and the future. I have really never known a better time in my life than now for a man to establish a breeding foundation of good horses, because a good horse is never cheap, never has been cheap. It is the plug that has been cheap; in fact, he is dear at any price. It is the good horses that count. You will find that the farmers in Washington County will want good horses for the farms. They have tried the tractors and machines, and some are still using them, but I have never heard of a farmer buying a second one there; never heard of one wearing his tractor out and buying another; he went back to the horses. That is an evidence that horses are the best in Washington County.

I do not know that I can say much more about the horse. I think that this spring, when the farmers are ready to do their farm work, horses are going to be higher than they have been for ten years. I really think that, because there are not in our country and adjoining counties enough horses. A dealer recently went out to Illinois, bought a carload of horses there, and sold nine the first day. He is going back for another load.

That is about all that I have to say for the present. Thank you for the opportunity. That is the first talk I ever made before a crowd, and I hope you will pardon me for my errors.

Following Mr. Cunningham's interesting address, President Jones called on Mr. H. S. Finney of Anne Arundel County to speak from the standpoint of the breeder of light horses.

MR. HUMPHREY S. FINNEY, Anne Arundel County: Most of you are not interested in the type of horses we, at Holly Beach, are raising; that is, thoroughbred race horses. I would like to say a few words on what this State has done in the past few years in the way of raising thoroughbreds. About three years ago in Annapolis we started The Southern Maryland Horse Breeders' Association with an attendance of 18 at our initial meeting. Your Secretary, Mr. Carmichael, was a guest at our annual meeting last December when some seventy people were present. At that meeting we learned of the existence of the Maryland Stockmen's Association and received from your Secretary the invitation to be present today, of which some eight of our members have availed themselves. Three of these men are owners of draft stallions, and can tell you of conditions in that branch of the industry in Southern Maryland.

I am qualified only to speak of the Thoroughbreds. There is a member of the State Racing Commission here today and you ought to know what the Racing Commission is doing to encourage you farmers to embark in the Thoroughbred industry in this State. He can tell you about it. The Commission has compelled the Racing Associations to put on more races for Maryland-breds. Originally all breeders of the winners of these and any races wherein the winner was bred in Maryland received \$250 from the Racing Association. Hard times forced the dropping of this bonus from Maryland-bred races, though the ruling still is in force in open races. This has worked some hardship on the little man who does not race, but we are told that we are to have the bonus again as soon as economic conditions warrant it.

In days gone by when you heard of a race horse he had to be a "Kentucky horse" or a "Virginia horse" before people paid much attention to him. I am not a Marylander. I am English born, but I think we can raise just as good horses here in Maryland as is possible anywhere else, Ireland included. Right down where we are, in truck-farming, melon-raising Anne Arundel, we raised one of the greatest mares which has graced the American tracks in many years, I refer to the grey mare "Tred Avon." At one time nobody ever heard of good race-horses being raised in Maryland. I took a swing around the breeding studs of Baltimore, Harford and Carroll counties the other day and I saw three new stallions which will make their first seasons here this year. They are owned by residents of New York, two of them, and Virginia. One has stood for service in Kentucky for years, one in Virginia and one in New York, yet their respective owners have now moved them here. Why?

Because they see the advantages offered to breeders by the State officials. You should all produce your own horses.

Your Commission is back of you. You should all work together. We horse breeders need you and you need us. We bring outside capital into the State, our people buy your farms, your hay, straw, corn and other products. We employ a vast amount of labor on the farms and at the tracks. The Secretary of the Maryland Horse Breeders' Association can present actual figures to show where about one million dollars was brought into the State in the last ten years.

I am very proud to be here today, it is very pleasant to be among you Maryland stockmen, and I appreciate the privilege. I think a few words from the member of the State Racing Commission as to what they are doing to assist Maryland stockmen would be in order.

PRESIDENT JONES: Mr. Edwin Warfield is here. We shall be glad to have a word from him.

MR. EDWIN WARFIELD, JR., Howard County: I have been very much interested in what Mr. Finney has had to say concerning the activities of the Southern Maryland Horse Breeders' Association. I quite agree with him that there is no State that is more favorably situated for raising horses than Maryland. The very successful thoroughbred breeding establishment that Mr. Finney represents collected over \$7,000 this past year as its share in breeders' awards given by the Maryland tracks to the breeder of a winning Maryland-bred horse. I agree with Mr. Finney in his statement as to the importance of these breeders' awards in attracting people to come to Maryland to buy farms for the purpose of raising Thoroughbred horses.

I know that a good many farmers do not think that this Thoroughbred breeding industry is of much importance to the agricultural interests of the State. It would be well for them to consider that every farm which is devoted to the breeding of race horses is taken out of the production of milk or beef or wheat or some other farm crop which competes in the market with the produce of their farms.

Some of those who attended the Farm Bureau meeting last fall will recall that I opposed the increased tax on race tracks which was one of the recommendations contained in the Farm Bureau Tax Report. This opposition was based on the likelihood of such an increased tax crippling the tracks to such an extent that they would not be able to continue payment of breeders' awards to Maryland breeders.

As a matter of fact, as a result of their poor financial showing this past year, they have had to reduce the amount of these awards by discontinuing them in the case of races limited to Maryland-bred horses. However, the number of these Maryland-bred races has been doubled in the past two years, thus, to a large extent, offsetting the loss of revenue to Maryland breeders by reason of the discontinuance of the breeders' awards in these races.

In closing, I might say that I regard the success of racing in Maryland as a matter of great importance to the farming interests of the State.

PRESIDENT JONES: Mr. James Davidson, do you have anything to add to the horse discussion before we go on to the next topic?

MR. JAMES DAVIDSON, Bel Air Farm, Prince George's County: We have been raising heavy draft horses—Clydesdales—in Maryland for about twenty years. At first, farmers in our locality were not favorably inclined toward draft horses. Recently, however, we have been glad to see that there is an increased interest in draft horses. We have placed seven Clydesdale stallions in six Maryland counties.

PRESIDENT JONES: Mr. W. O. Welch of Anne Arundel County, who is interested in heavy horses, is in the audience. Would you care to make any comment, Mr. Welch?

MR. W. O. WELCH, Anne Arundel County: I am interested in draft horses and have one purebred Percheron stallion and one grade. I have been keeping stallions since I was eighteen years old. The chief trouble in our section is that the average farmer does not feed his horses well enough. Without generous feeding, good draft horses cannot be developed.

The best advice I have to offer is: Breed to the very best stallion you can find, and feed your horses, especially your colts and young horses, in the best possible way. You will always be able to get a good price for your horse if you have raised him right.

MR. JONES: Has anyone else something to say about horses? If not, we will pass on to Beef Cattle. Mr. Ernest R. Shriver of Frederick County will open that discussion.

Mr. Ernest R. Shriver, Frederick County, discussed in a brief way cattle feeding in his section of the State. He referred to the activities of the Maryland Angus Breeders' Association, and the fact that a number of people are now raising beef calves for feeding, rather than depending upon purchased feeders. He indicated that there is an active interest in cattle feeding in his locality, and expressed the conviction that feeders are now emphasizing quality in feeding cattle to a greater extent than heretofore. He emphasized the importance of adopting a rational procedure in cattle production and then adhering to the adopted plan, regardless of temporarily disturbed conditions.

PRESIDENT JONES: Many of us are interested in cattle. Personally, I feel there is nothing that we can do that will be much more attractive than to maintain a herd of good purebred or high grade cattle on the farm, from which to produce baby beef; it is a nice business. I did that myself for a time, but I found I could not give it the attention that it merited. We would like to hear from some others. Mr. William Hines, may we hear from you?

MR. WILLIAM J. HINES, of Montgomery County: I have not been very successful lately with cattle, as there has been an unfavorable market for some time. However, I like to feed cattle, and I expect to keep on feeding, although there is no great prospect for profit just now.

PRESIDENT JONES: Mr. Thomas Darby of Montgomery County, is a cattle feeder. We will be glad if he will tell of his experience.

MR. THOMAS C. DARBY: Mr. Chairman, I have been feeding cattle in a small way for many years, and feel that it has been a profitable undertaking, all things considered. I find that there is now a better chance for profit when one buys small cattle than when cattle of heavy weight are handled. One lot of cattle that I bought in May at 600 pounds were grazed through the summer, roughed through the following winter and then sold in November at a weight of 1,250 pounds. They brought about \$12 per head more than they cost, and the profit was small. However, I feel that I did not lose on them because of the inexpensive way in which I handled them. Some who have recently bought heavy cattle have sold them at a loss.

MR. SAM O'SULLIVAN, St. Mary's County: At present we are feeding about forty-five steer calves; we fed fifty last year. We did not make anything, but we did not lose anything, because we have the manure back on the land, and we raised the feed. We just started in with a purebred Angus herd this year, and before long I hope to be able to produce our own steers and market them.

PRESIDENT JONES: The good presiding officer does not have much to say, simply presides and lets the others do the talking, but I just want to make a remark here in regard to the cattle business—a remark made to me. I asked a cattleman, "What do you think of the relative merits of the Angus and the Hereford?" He said, "I am inclined to the Herefords myself. There is just this difference—if you want something to go a long ways and make the grade, take the Herefords; if you want something to put in a show and take first prize take the Angus." I do not know anything about them, I do know the remarks in regard to raising your own beeves—that is one of the ways we can get by in the beef cattle business without losing very much. Though you may not make much profit, you are not taking so much of a chance as when feeder cattle are bought.

MR. W. H. CUNNINGHAM, Washington County: I feed cattle as well as horses and dairy cows. We also raise hogs and sheep and some chickens, as fine as any you will find in the State.

I have not missed buying cattle for thirty years, never in a big way, but I feed cattle every year. During the last three years I cannot say that they have made me a dollar, but as long as they do not cost me any more than they have in the past, I am going to go on feeding them.

I cannot afford to sell the cheap grade, and so I do not feed them. I do not think there has been any better time in my life to feed than now, with this cheap feed. Even if you get no profit, you are ahead of the game by improving your land with the manure produced. Year before last I paid 6 cents for cattle, and I sold them for five. Last year I paid \$4.75 and sold them for \$4.35. This year maybe I will make a profit on the sixty-five I bought. If they drop me down like they did last year, next fall I will not feed so many, but I am not behind yet in feeding. On one occasion I bought a little bunch of Shorthorns; I do not remember what they cost me per pound, but I do know they cost me \$975. I fed them, and in six months sold them for \$2,772. I tell you if we could do that now, we would soon knock h—— out of this depression.

PRESIDENT JONES: I don't know what kind of a meeting this is. Is there anyone else?

MR. A. L. TOWSON, Washington County: We keep some Angus cattle on our farm. Our local butcher promised to keep some of the beef from one of our cattle for us for at least a week; my wife went down and got some meat on a Saturday. When served I took one bite of it and told my wife that it was not from our beef. She said, "Oh, yes, it is, he promised to keep it for us." I still said it was not ours, and that I was going to tell the butcher about it. Monday morning my wife went down to the meat market and the butcher said, "I may as well confess. I could not keep that meat. We killed the beef the first part of the week, and the people kept coming here for it until it was all gone." It was from an Aberdeen Angus.

MRS. DIXON, Kent County: We have a herd of Angus, a small herd of forty or fifty head. They do very well for us.

There was some discussion of the relative merits of the three beef breeds Angus, Hereford, and Shorthorn, at the conclusion of which Professor W. E. Hunt of the University of Maryland called attention to the fact that type is the really important consideration, for, whatever the breed used, there is need for selecting with care so as to get the type which will yield what the market wants.

PRESIDENT JONES: We will next hear from Mr. Osburn Stabler, Montgomery County, on "Sheep."

PRODUCING EARLY LAMBS

OSBURN N. STABLER

Montgomery County

Mr. Chairman and Gentlemen: Early lambs seem to fit our farm better than other methods of sheep production. We use Southdown rams on Dorset-Merino cross-bred ewes. Each of these breeds contributes important

features. The Southdown gives the lambs quality and high dressing percentage, due to their small, neat head and legs. The Dorsets are heavy milkers, so the lambs grow fast and fat. The Merinos increase the quality and weight of the wool. Our ewes sheared nine pounds each last year. Both the Dorsets and Merinos are early breeders.

We delay shearing until after the first of June, and begin breeding about the twentieth of June; this gives us a few November lambs, and about 70 per cent of our ewes lamb before January 1.

The ewes receive legume hay after about November 1, but no grain until the lambs are a few days old, when we start feeding shelled corn at the rate of one pound per ewe per day. The lambs run to shelled corn and hay in a creep. After lambing, our ewes are out every day.

The lambs are sold by the head at from 40 to 60 pounds, and average eight or nine weeks in age.

We do not advise everyone to try this plan, even though in our case the advantages out-weigh the disadvantages. The advantages are that with limited land fenced for sheep pasture, we can run more ewes and have them in good condition in the fall. And, selling at lighter weights, we receive just as much, or more, per lamb as we would by making them larger on grass, and we are not bothered with parasites in the lambs.

The disadvantages are that we will soon have to purchase replacements, as we are not sure that ewe lambs of this mating would be as satisfactory as the Dorset-Merino cross. The housing must be better, and more space per ewe is needed, and they need more attention when lambing than a flock bred for April lambing. Also, you need plenty of good legume hay. Besides, you should know that you have a market for this type of lamb before you start, as it is very discouraging to try to sell these especially good lambs when the butchers are talking only regular lamb prices.

PRESIDENT JONES: We would like to hear from others who produce market lambs, or who raise purebred sheep.

MR. W. H. CUNNINGHAM, Washington County: I have 60 head of ewes on my farm, and I am very particular as to the kind of ram I have. Of course, I always buy purebred rams. I want to tell you about the importance of a purebred ram. Have high-grade ewes, but be sure to have a purebred ram. I purchased a pair of Hampshire rams from Mr. Rensch on one occasion, and paid \$25 apiece for them. After I used those two rams for four years, a neighbor wanted to exchange one that he had for one of my purebred Hampshires. We exchanged even, but he got the best of the bargain and I got licked, for his was not so good as mine. The other ram I sold to a neighbor of mine after I was through using him. He was then five years old, for I had used him four years. I asked \$30 for him. He seemed to think that was too much. I said, "You take that ram and use him, and if you do not feel, when the lambs come, that that is the cheapest ram you ever bought, come back and see me." He purchased the ram at \$30. He used him two years, and Professor K. A.

Clark offered \$30 for that ram when he was that much older, to take down on the Eastern Shore to the Ram Sale. That is the kind of ram that Mr. Rench had. Let's hear from him.

MR. ROBT. RENCH, Washington County: I have a small flock of Hampshires; yes, I have some, and would like to sell some.

MR. JAMES DAVIDSON, Prince Georges County: We raised some lambs this year that were born in March and April and marketed them the other day in Baltimore for \$7 a head. Those lambs were raised on grass with no special attention, just the run of the field with as little expense as possible. That is our system.

MR. R. S. BROWN, County Agent for Talbot County: We were supposed to have a man from Talbot County to say something about the Ram Sales on the Eastern Shore, but he did not get here. The Ram Sales certainly have done a wonderful work down there for the Eastern Shore's sheep industry. They have a system down there that cannot be followed so well on much of the Western Shore. They raise the lambs on wheat pasture during the winter and do not give them any other feed. Of course, the lambs are nursing the ewes. Some of us, including some from the University, had an idea that if they would supplement this wheat pasture with grain it might be more profitable. Arrangements were made for some farmers to weigh their lambs at the time of birth, and keep complete records on them. Well, to make a long story short, the thing did not work out as we thought. The lambs that made the most progress were the ones that received no other grain, but were just raised on this wheat pasture. An interesting thing back of that is that when we went back into the history of those lambs that made the most progress, we found they came from a flock of high-grade ewes on which purebred rams had been used for years.

MR. ALBERT STABLER, Montgomery County: I was in the sheep business on my farm for many years, and was fairly successful. One year I sold thirty lambs from sixteen ewes. I have turned two little houses into sheep houses. I have found that when the ewe has a lamb it is better to put her by herself for two or three days. I had little compartments in the houses so that a ewe can be kept by herself. It cost me only about ten dollars to fix those little houses up, and if I save a couple of lambs that will more than pay for it.

PRESIDENT JONES: This is very interesting, but we must pass on. The next subject in our list of round table topics is "Hogs," and this discussion will be led by Mr. J. Kieffer Funk.

A LOW COST HOG PRODUCTION PROGRAM FOR 1933 SHOULD ANSWER FOR 1934

MR. J. KIEFFER FUNK

Washington County

Mr. Chairmen and Gentlemen: A 4-cent hog market lends little encouragement to a Washington County farmer to come before the Maryland Stockmen's Association and talk on the problems of swine production for 1934; it is rather a condition that would seemingly make any talk on hogs untimely and uninteresting. But it is my interest in livestock in general and hogs in particular that brought me here, for I believe the farmer who keeps well-balanced herds of farm animals, varying his production somewhat according to conditions, will come through the "slough of depression" in better financial condition than the farmer who depends on only one or two cash crops; and, in addition, he will leave to posterity a better farm for so doing.

I have chosen hogs (Duroc-Jerseys) as my specialty in livestock production, not that I like hogs better than sheep or beef cattle, but because of the type of farming that I do. Naturally, my farm is not well adapted to swine production as there is no running water on it, as the name "Dry Spring" would indicate. There is a twenty-acre apple orchard planted and developed by the writer to a high state of productivity, which presented the real problem and opportunity for me.

This orchard is cultivated in part, and cover crops sown, which at certain times of the year give a cheap and abundant pasture for the pigs; and by utilizing some of the non-bearing areas, soybeans are sown about July 1, and these furnish a splendid supplement to the waste apples that the pigs will gather about November 1. Here they are kept until the hard weather of winter sets in. Of course, self-feeders and watering troughs are placed conveniently. But now for the rest of the year when I cannot pasture the orchard, I have four other lots of an acre or less, in which shelter is provided, and crops such as soybeans, soybeans and corn, and alfalfa, are grown. The first two crops are annuals, but the alfalfa I can hold for several years, if it is not pastured for too long periods at a time.

Corn is the foundation feed at all times; this is supplemented with barley, oats, and wheat with fishmeal as the source of added protein.

The barley and oats are finely ground, the fishmeal and minerals being mixed therewith in varying proportions depending upon conditions, and fed dry, only rarely making a slop feed. Wheat is relished best if cracked or coarsely ground.

Of course, at this time of the year, most of the hogs are kept in the central hog house, which faces east and serves as a windbreak on the west side of the barnyard. Concrete floors and out-yards prevail and offer many advantages in sanitation, but require lots of straw for bedding. A special plank-floored pen has been erected nearby for my herd boar.

With the plan as mentioned I am able to market the seasonal litters at weights varying from 180 to 220 pounds by the time the succeeding litters are crowding for space.

As to prospects, I believe that all producers should watch the markets carefully, and in a cooperative way endeavor to prevent a great surplus of pork from depressing the markets.

PRESIDENT JONES: Mr. Snyder, you are a breeder and feeder of hogs—would you care to say something now?

MR. J. HERBERT SNYDER, Carroll County: It is getting late, and there are a lot of other subjects this morning on which these men have prepared papers. I have no prepared speech, so I would like to give my time to these other subjects.

PRESIDENT JONES: We would like to hear from some one else then. Mr. Cunningham, do you have anything to add to this discussion?

MR. W. H. CUNNINGHAM, Washington County: I would just like to say a word about hogs. Mr. Funk has talked about his Durocs. I prefer spotted Poland-Chinas and Chester Whites. Just this year I weaned four pigs the first of August. When I slaughtered them, they weighed 250 pounds apiece. I fed them nothing but ground barley and they were not out of the pen from birth until I slaughtered them.

PRESIDENT JONES: I want to tell a little story. Shortly after I put up my first silo, a very nice one, one of the boys came and told me that there was something the matter with a sow in the barnyard. He said, "I believe she is mad or something, she is cutting all kinds of funny capers." I went and made an investigation, and I found that in building the silo a little hole was left in the cement. The juice from the silage was oozing out, and this old sow used to go down there every morning and drink it, with a very disturbing effect on her equilibrium.

I would like to appoint the Nominating Committee at this time and request them to propose officers for the coming year. It will be appreciated if they will report at the close of this session. I will ask the following men to serve on this committee:

Mr. W. R. Harvey of Baltimore County, chairman; Mr. Sam O'Sullivan of St. Mary's County; Mr. William Hines of Montgomery County.

We will now hear about "Purebred Livestock" from Mr. Ray Norman.

PUREBREDS

RAY NORMAN
Harford County

Mr. Chairman and Fellow Livestock Breeders: I tried very earnestly to persuade your secretary that it was impossible for me to speak on any subject ten minutes unless I was trying to make a sale, and I am confident that you will agree with me that I have nothing of value to add to the remarks of the gentlemen who have addressed the meeting thus far. However, it occurred to me that there should be some good prospects among this crowd for a sale, so I came down.

Breeding purebred livestock has been the chief effort on our farm, ever since we started. Everything we have is purebred except the cat, and will replace him with a purebred Persian just as soon as he loses one more of his nine lives. We have had some success in our small way, and have met many interesting people and have gone places, where, as ordinary stockkeepers, we would not have gone.

We think that the purebred livestock business is in a healthy condition, and that the disastrous days of extravagant prices for mediocre registered animals are gone forever, but that the influence of extension and club work on the new generation of farmers means the continued healthy advance of the business of the breeder who produces the right kind of stock. Too often in the past the purchaser of high-priced breeding animals failed because he himself did not sell his purebred stock, but, rather, expected the world to come to his door in accordance with the well-known fable of the maker of the better mouse-trap. As our bread, butter, and shoes for the baby depend solely on the sale of our breeding animals, not only in stock, but in over forty kinds of poultry, turkeys, game, and ornamental birds (as we breed everything from a pheasant to a peafowl, and a Mandarin duck to a swan, and our sales this week include golden pheasants, three breeds of turkeys, two pair of peafowl, one of swan and a golden eagle), it occurs to me that you might be interested in some thoughts on salesmanship as applied to our business of producing purebreds and disposing of them.

While we are very far from being expert in this line, I believe that it is possible that we have made as many sales from our small farms as many others have. Last year we sold 44 head of registered Ayrshires at fairly good prices, and, as most of you are interested in beef cattle, it is of interest to note that a load of Ayrshire steers topped the market at one of the Western yards last fall, and yielded a remarkable percentage of prime beef. However, the same principles apply to all breeds, and we use the same effort in selling a bantam rooster as we do in selling a herd bull.

The very first thing to do is to locate the prospective buyer, which

is done through several channels, the most usual of which is advertising (which need not be done in an expensive manner), by shows, or, best of all, by good words from your previous customers and your friends. Then, give the mail inquiry of this prospect a careful answer, and supply a detailed description of the animals you have that fill his need. We make a list of all the cattle that are for sale, giving a short pedigree of the family of the animal under consideration; and then give prices in a general way, pricing not too high, or your prospect may be lost right there. When the prospect comes to see the offerings, be ready to show them to advantage: have your stock in good condition, clip the cattle, have the hogs walk out from a well-bedded house, and have the sheep tagged and clean. A buyer once told us of a lot of cattle that we did not have trimmed up before he bought them, but which we did trim before he got them, that he would have been willing to pay \$500 more if they had looked like that when he bought them.

And when your prospect comes do not hurry; show him your other stock or poultry first, and here is a good argument for quality in all your live things on the farm. Impress him with the fact that you are aiming at high quality, and as you show him the livestock that he thinks of buying, give him full information on each animal, telling of their relationship to champions of the show or pail, or market topers, and postpone giving actual prices until the very last; during all this time you can be judging the man to whom you are talking. All buyers are different. Some men expect your first price to be final, and for these you must be careful to make your price good value, and then not to change it under any circumstances; others are bargainers and will not buy unless they think they are making a sharp deal—and for these you must price the animals in a way that will permit you to come down and still get what you consider a fair price. A man worth ten million dollars worked for two days last summer getting a few hundred dollars taken off of the asking price of a lot of cattle. He was hugely pleased when he succeeded in getting the price reduction, and went away tickled to death over a great bargain—but still we had realized a little more than we had expected to get out of the cattle.

And this is a cardinal point in successful selling—make each buyer leave thinking that he has secured a good value. The only way to make the buyer think this is for you to think that you are giving good values. Under no circumstances let an animal with a serious fault leave your farm to go into new hands and a new neighborhood. At the very start, when showing your stock, tell the faults as you go along, for this gives the buyer confidence that will mean dollars to you in closing your sale.

In pricing, always price the cheap ones first; dwell on them, and when your buyer asks for the good ones, price them higher, much

higher, and then is the time to price a lot together, if you like to do as we do, sell a herd at once. The average price, when the good ones and cheaper ones are combined, looks good, after your prices on the better ones have been considered, and most buyers will take them all.

In mail orders you have a different aspect. Your price must be final. Your letter, your description of your offerings, and your stationery are the only things by which your stock can be judged, and the terms on which you sell should be that of absolute satisfaction, or charges refunded. When delivery is made, your animal must be crated neatly, must be clean, and in good condition. You are selling solely on your word, and you must make good.

And now it is time for better things, and I will close by wishing for all of your breeders, good sales in 1934.

PRESIDENT JONES: The nominating committee is ready with its report, which will be presented by the chairman, Mr. W. R. Harvey.

MR. W. R. HARVEY, Baltimore County: After careful deliberation your nominating committee offers for your consideration the names of the following men for the offices indicated:

President—J. W. Jones, Olney, Montgomery County.

Vice-President—J. K. Funk, Hagerstown, Washington County.

Secretary-Treasurer—B. E. Carmichael, College Park, Prince George's County.

Assistant Secretary-Treasurer—Joseph M. Vial, College Park, Prince George's County.

Executive Committee—

Edgar Zepp, Clarksville, Howard County.

E. T. Cullen, Port Deposit, Cecil Council.

H. P. Miller, Grantsville, Garrett County.

J. Maguire Mattingly, Pearson, St. Mary's County.

H. N. Cohen, Easton, Talbot County.

Director Maryland Farm Bureau Federation—Edwin Warfield, Woodbine, Howard County.

Delegate to Annual Meeting Maryland Farm Bureau Federation—Stanley P. Stabler, Spencerville, Montgomery County.

Upon motion, properly seconded, officers for 1934 were elected in accordance with the report of the nominating committee.

PRESIDENT JONES: Gentlemen: I regret that owing to an important business engagement I must return to Montgomery County this afternoon. Accordingly, I shall ask our new vice-president, Mr. J. Kieffer Funk, of Washington County, to take the chair.

CHAIRMAN FUNK: The next topic is "Shows" to be discussed by Mr. W. R. Harvey, manager of the Baltimore Live Stock Show. Mr. Harvey will include in his discussion a report of the 1933 Baltimore Show.

SHOWS

W. R. HARVEY

Manager, Baltimore Livestock Show

Mr. Chairman and Gentlemen of the Maryland Stockmen's Association: This is an annual affair of mine, talking about shows and making a report of the Baltimore Livestock Show and Sale. Before I start on my formal report I want to say that I believe I have never missed a session of the Maryland Stockmen's Association meetings. It is an especially splendid crowd of men here this morning, and I see many new faces, I thought I would know all of them, but there are some who are new to me. Surely, it is encouraging to see such an attendance, and to have so much enthusiastic interest in our program.

I know of no other subject that I would rather talk about, write about, or discuss than that of livestock shows and fairs. My reason for this is that I consider that our shows have done more to develop the men who make the exhibits, and their livestock of all breeds and classes, than any other thing.

The young man who desires to take up the breeding and feeding of any particular class of livestock must, of course, have in his mind a standard which he will try to achieve. This standard may be right or it may be far from it, and in order for him to learn and to know exactly what kind of an animal he must produce to meet present-day requirements, as well as to appeal to our best judges, he should also know how to feed for perfect development, and to handle them properly.

To gain all this information he must visit as many of the good livestock shows within his reach as possible, where he can see a group of his favorites lined up before a judge of national reputation, so as carefully to watch the placings of these animals. He should also make a careful study of the lineup as they look to him, then place them according to his own judgment, class after class, and see how his ratings compare with those of the judges. All of our present-day judges are glad to give any information and answer any reasonable question that may be asked them, and advantage should be taken of this by the beginner.

I am sure, after a life's experience, that there will be nothing that will mean more to a beginner, young or old, than these first lessons in learning the standard requirements of your chosen breed of livestock, how to breed and feed properly, and to handle them to the best advantage, either on your farm or before the judges in the show ring. To get all this you must attend every good livestock show you can as an interested onlooker.

The most important factor in the handling of a successful livestock show of any kind is, of course, the exhibitors. They must make the show. The number of them that you will have will depend altogether

upon the attractions that you have to offer them in the way, first of good comfortable stalls and pens for their stock, and then a good classification, together with liberal cash prizes, which in all cases should be paid them in cash on Friday of show week, or before they leave for other shows or their homes. To these exhibitors, the judges who are to judge their animals mean much, and the time has come when the superintendent of any department can no longer depend on the man he may be able to pick up strolling around the grounds to do this work. Exhibitors insist, and rightly so, on knowing exactly who is going to work on their stock before they ship them from home.

The exhibitors are, almost without exception, a splendid type of men; in fact, I think the best on earth. They are just such men as I am glad to have my son and grandsons mingle with and know well. Recently I had a feed man say to me, "I have always let any exhibitor of horses, cattle, hogs, or sheep have anything that he wanted and have never lost a cent, but not so with the fellows over in the other corner."

Fathers should exert every effort to take the boys to at least one good livestock show each year. Just turn these boys loose and follow them wherever they want to go; their inclinations will lead you to exactly what appeals most to them. For some it will be the cattle, some hogs or sheep, some to see the horse show, and some of them might even want to spend their time and money seeing the side shows on the grounds. This father, if he is a student of human nature and has watched his boys on their rounds close enough, can, I think, look safely into the future and very nearly tell just what may be expected of this or that boy, and what he will likely do with the home farm, or whatever you may be able to leave him, and there is no getting away from this fact. Farmers and stockmen, you should consider these things an important part of the boy's education and see to it, even if you must make serious sacrifices, that the boy sees good stock and stockmen at every opportunity, and a good livestock show at least once every year. You owe it to him.

I may be taking up too much time or having too much to say about the boys under the subject of shows, but I value each livestock show, first of all, for its educational advantages, and I sincerely believe that there is no better place on earth for a boy or girl to spend a day than at a good, clean livestock show or fair, where the exhibits are made up of animals of high quality in all classes.

Parents should lend every encouragement to the boy or girl, and help them acquire, breed, feed, and I will go further and say exhibit, their chosen animal at the local show.

These shows are a decided advantage to any State, city or county, and only by the united support of us all can any of them be successful one year after another.

I am, of course, very much interested in the Baltimore Livestock Show, and just a little proud to submit a brief report of the 1933 show and sale

held at the Union Stock Yards, October 10, 11, 12 and 13, 1933, which was very generally considered a success.

All cattle entered in the show were passed on Tuesday by the weeding committee, "Buck" Schluderberg, Sam Morris and Raymond Heinz, all buyers on the Yards, and men exceptionally well qualified to do the work, and they were very liberal; and, in eliminating the cattle lacking real show quality, their work gave splendid satisfaction.

The use of this weeding committee and the restriction of the area from which the show cattle were eligible reduced the number of entries very much, but raised the quality to such an extent that every load and every individual was of high quality, and in most classes the competition was very keen and required very careful, considerate work by the judges.

The grand champion carload was a load of yearling Herefords exhibited by George B. Holtzman, Mt. Jackson, Virginia; the reserve championship went to a load of higher-fitted Herefords exhibited by the Milkyway Farms of Pulaski, Tennessee. A trio of Angus exhibited by Fox Hill Farms won top honors in class, the same firm having won in this class at the 1932 show; second went to Herefords exhibited by Buck and Doe Run Valley Farm, Mortonville, Pennsylvania; the third going to three grade Angus steers exhibited by P. B. Bird, County Agent, Marion, Virginia.

For the second time the grand champion steer prize was awarded to Fox Hill Farms, this year on the Angus steer, Ebony, reserve championship going to a grade Angus exhibited by Thomas Anderson, Marion, Virginia.

In the sale, opened by the Hon. Howard W. Jackson, Mayor of Baltimore, the load of Holtzman grand champions went to Schluderberg-Kurdle Company at 11 cents per pound, this firm having purchased the grand champion load at each of the five shows; the reserve champion load exhibited by Milkyway Farms brought 14 cents, going to the Baltimore and Ohio Railroad to be used in their dining car service. The grand champion carload of feeders exhibited by H. M. Ball & Co., went to Herbert Cover, Westminster, Maryland, at \$5.50 per cwt.

The grand champion steer of the show, the Fox Hill Farm Angus, sold at 41 cents, with the reserve champion, a Hereford, bringing 21 cents, both going to Raymond Heinz for the Riverside Abbatoir, who by the way, has purchased four of the five grand champion steers exhibited here, and in the other case, in 1930, he was the contending bidder.

The grand champion carload of hogs, exhibited by Pioneer Point Farms, Centerville, Maryland, owned by Mrs. John J. Raskob, was sold to Schluderberg-Kurdle Company at \$6.50. This same firm also bought the winners in all other classes.

The grand champion carload of lambs exhibited by Dorsey Hall Farm, Ellicott City, Maryland; the grand champion pen of three lambs and the

grand champion individual lamb all went to E. W. Plitt & Bro. at \$9.50, \$10.00 and \$13.50 per cwt.

Buyers and sellers seemed well satisfied with the outcome of the sale with prices ranging from 75 cents to \$1.00 per cwt. higher than the same cattle would have sold for on the open market.

The one big outstanding lesson taught to the producers of livestock in this territory was exemplified in the spirited bidding of the buyers for animals of the lighter weights with outstanding quality.

The total amount of \$97,206.89 was realized on the 1,914 head of livestock of all classes.

Detailed Sale Results

There were 56 loads of fat cattle, containing 966 head, on exhibition, passing through the sale ring. They sold for a total of \$74,196.78.

The grand champion carload sold for 11 cents with the reserve champion carload selling at 14 cents per pound.

The highest selling 5 carloads averaged.....	\$9.72
The highest selling 10 carloads averaged.....	8.60
The highest selling 20 carloads averaged.....	7.77
The highest selling 30 carloads averaged.....	7.06
The highest selling 40 carloads averaged.....	6.63
The highest selling 50 carloads averaged.....	6.31
The entire consignment of 56 carloads averaged.....	6.10

There were 161 individual and club steers that sold for a total of \$11,972.29, the individual steers bringing \$5,266.99 and club steers \$6,705.30.

The grand champion sold for 41 cents and the reserve champion sold for 21 cents a pound.

The highest selling 5 individuals averaged.....	\$19.75
The highest selling 10 individuals averaged.....	14.40
The highest selling 20 individuals averaged.....	11.50
The highest selling 40 individuals averaged.....	10.75
The highest selling 50 individuals averaged.....	10.61
The highest selling 75 individuals averaged.....	9.33
The highest selling 100 individuals averaged.....	7.99
The whole consignment of 161 head averaged.....	7.80

There were 289 cattle sold as feeders that averaged \$4.52.

One hundred and sixty head of hogs were sold for a total of \$1,561.36. The grand champion carload sold for \$6.50; the grand champion trio sold for \$6.50, and the grand champion individual brought \$10.00 per cwt.

There were 138 fat lambs that sold for \$939.06 with the grand champion carload bringing \$9.50; the grand champion trio bringing \$10.00; and the grand champion individual bringing \$13.50.

There was a grand total of 1,714 head of all classes of livestock that sold for \$97,206.89.

Detailed Show Results

Department A, Class 1, carload of 15 head of steers or heifers weighing over 1,100 pounds.

- 1.
- 2.
- 3.
- 4.

Class 2, carload of 15 head of steers or heifers weighing under 1,100 pounds.

1. John K. Martin & Son, Troy, Ohio.
2. John K. Martin & Son, Troy, Ohio.
3. John K. Martin & Son, Troy, Ohio.
4. George H. Kirkpatrick, Utica, Ohio.

Department B, Fat Cattle, open to exhibits from Maryland, Virginia, West Virginia, Delaware, and Tennessee, Class 1, carload of 15 head of steers or heifers weighing over 1,100 pounds.

1. John M. Redpath, Rockville, Maryland.
2. H. M. Lake, Warrenton, Virginia.
3. H. M. Lake, Warrenton, Virginia.
4. John M. Redpath, Rockville, Maryland.

Class 2, carload of 15 head of steers or heifers weighing under 1,100 pounds.

1. George B. Holtzman, Mt. Jackson, Virginia.
2. Milkyway Farms, Pulaski, Tennessee.
3. Cremona Farm, Oraville, Maryland.
4. George K. Bailey, Earleville, Maryland.

Champion carload of fat cattle, open to Ohio and Pennsylvania, John K. Martin & Son, Troy, Ohio.

Champion carload of fat cattle, open to Maryland, Virginia, West Virginia, Delaware, and Tennessee, George B. Holtzman, Mt. Jackson, Virginia.

Grand champion carload of fat cattle, George B. Holtzman, Mt. Jackson, Virginia.

Reserve champion carload of fat cattle, Milkyway Farms, Pulaski, Tennessee.

Department C, three steers or heifers open to Ohio, Pennsylvania, Maryland, Virginia, West Virginia, Delaware, and Tennessee Class 1, three steers or heifers fed and owned by exhibitor.

1. Fox Hill Farms, Fallston, Maryland.
2. Buck and Doe Run Valley Farm, Coatsville, Pennsylvania.
3. P. E. Bird, Marion, Virginia.

Grand champion trio of steers or heifers, Fox Hill Farms, Fallston, Maryland.

Department D, individual steers and heifers open to exhibits from Ohio,

Pennsylvania, Maryland, Virginia, West Virginia, Delaware, and Tennessee, Class 1. Individual steer or heifers, fed and owned by exhibitor, exhibited at halter, club steers not eligible.

1. Fox Hill Farms, Fallston, Maryland.
2. Buck and Doe Run Valley Farms, Coatsville, Pennsylvania.
3. Andelot Stock Farms, Worton, Maryland.

Grand champion individual steer or heifer, competed for by winners in Departments D and E, Fox Hill Farms, Fallston, Maryland.

Reserve champion individual steer or heifer, Thomas Anderson, Marion, Virginia.

Department E, 4-H Club steers or heifers, open to Ohio, Pennsylvania, Maryland, Virginia, West Virginia, Delaware, and Tennessee.

CLASS 1, HEREFORDS

1. Thomas Anderson, Marion, Virginia.
2. Kermit Cline, Fishersville, Virginia.
3. Thomas Anderson, Marion, Virginia.
4. Dwight Skaggs, Lewisburg, West Virginia.
5. James Harmon, Petersburg, West Virginia.
6. James Harmon, Petersburg, West Virginia.
7. Hogueland Taylor, Petersburg, West Virginia.
8. Hogueland Taylor, Petersburg, West Virginia.
9. Frank McClung, Reconvert, West Virginia.

CLASS 2, SHORTHORNS

1. Grove Brothers, Waynesboro, Virginia.
2. Grove Brothers, Waynesboro, Virginia.
3. Charles Meek, Marion, Virginia.
4. Mildred McCray, Middlebrook, Virginia.
5. Tom Brooker, Fishersville, Virginia.
6. Robert Black, Stuart Draft, Virginia.
7. Billy Davidson, Bowie, Maryland.
8. John Gass, Jr., Marion, Virginia.
9. Noah King, Gaithersburg, Maryland.
10. Grover Persinger, Lewisburg, West Virginia.

CLASS 3, ANGUS

1. Thomas Anderson, Marion, Virginia.
2. Thomas Anderson, Marion, Virginia.
3. Maurice O'Bannon, Speersville, Virginia.
4. William McGregor, Worton, Maryland.
5. Thomas Anderson, Marion, Virginia.
6. Rucker Brothers, Delaplane, Virginia.
7. Fred Harman, Petersburg, West Virginia.
8. James McGregor, Worton, Maryland.
9. Jack Moore, Staunton, Virginia.
10. Rucker Brothers, Delaplane, Virginia.

Grand champion Boys' 4-H Club steer or heifer, Thomas Anderson, Marion, Virginia.

Department F, feeder cattle, open to all, Class 1, carload of 20 head

of Hereford, Shorthorns, or Angus steers or heifers weighing under 550 pounds.

1. W. R. Lockridge, Dorfield, Virginia.
2. Hall Commission Company, Moultrie, Georgia.
- 3.
- 4.

CLASS 2

Carload of 20 head of Hereford, Shorthorn or Angus steers or heifers weighing 550 pounds and not over 1,000 pounds.

1. Ramey & Walker, Marshall, Virginia.
2. H. M. Ball & Company, Union Stock Yards.
3. George P. Edgar, Hillsboro, West Virginia.
4. W. A. Whitehair, Terra Alta, West Virginia.

Grand champion carload of feeders, Ramey & Walker, Marshall, Virginia.

Department G. fat hogs, open to all, Class 1. Carload of not less than 50 head of fat hogs weighing 150 to 225 pounds.

1. Pioneer Point Farm, Centerville, Maryland.
2. Brady Brothers, Payne, Ohio.
3. T. O. Latham, Haymarket, Virginia.

Class 2, pen of five fat hogs, weighing 150 to 225 pounds.

1. T. O. Latham, Haymarket, Virginia.
- 2.
- 3.

Class 3, individual barrow weighing 150 to 225 pounds.

1. T. O. Latham, Haymarket, Virginia.
- 2.
- 3.

Grand champion carload of fat hogs, Pioneer Point Farm, Centerville, Maryland.

Grand champion pen of five fat hogs, T. O. Latham, Haymarket, Virginia.

Grand champion barrow, T. O. Latham, Haymarket, Virginia.

Department H, fat lambs, open to all, Class 1. Carload of not less than 50 fat lambs.

1. Dorsey Hall Farm, Ellicott City, Maryland.
2. G. C. Dixon, Bayard, West Virginia.
- 3.

Class 2, pen of three fat lambs.

1. Hogueland Taylor, Petersburg, West Virginia.
2. Milton Dally, Petersburg, West Virginia.
3. G. C. Dixon, Bayard, West Virginia.

Class 3, individual fat lamb.

1. George T. Bennett, Woodbine, Maryland.
2. Dorsey Hall Farm, Ellicott City, Maryland.
3. G. C. Dixon, Bayard, West Virginia.

Grand champion carload of not less than 50 fat lambs, Dorsey Hall Farm, Ellicott City, Maryland.

Grand champion pen of three fat lambs, Hogueland Taylor, Petersburg, West Virginia.

Grand champion individual fat lamb, George T. Bennett, Woodbine Maryland.

CHAIRMAN FUNK: Dr. W. G. Chrisman, of the State Livestock Sanitary Service, Baltimore, will now discuss "Sanitation," with special reference to sheep.

SANITATION OF SHEEP QUARTERS

DR. W. G. CHRISMAN
Livestock Sanitary Service, Baltimore

Mr. Chairmen and Gentlemen: The sheep industry of Maryland is of a good deal of importance. It is estimated that there are from 110,000 to 125,000 sheep in the State. It is probable that about that many lambs are marketed annually. On account of the susceptibility of sheep to infestation by parasites and to infection by disease organisms, the matter of sanitation is of much practical importance.

Requisites in sanitation of sheep quarters should include providing quarters that are well drained; supplied with an abundance of sunlight; well ventilated; protected from drafts; and that do not harbor organisms which produce disease. Neglect of any one of these points is likely to result in sickness and heavy losses.

Referring to the matter of drafts, many sheep houses are damp, cold, and dirty. Sheep that are kept in such quarters are likely to be affected by colds, or even to contract pneumonia. Damp pastures and lots favor development of stomach worms, lung worms, and foot-rot organisms. Moreover, in the matter of comfort, dry quarters are of much importance to sheep.

Sunlight aids in keeping quarters dry. In addition, it is the best known disinfectant, killing germs and bacteria of every kind. Sunlight is nature's tonic. Too often barns and feed lots are dark, instead of being well lighted and constructed so that the flock can get the benefit that is to be secured from direct rays of the sun.

Though there should be no special difficulty experienced in providing well ventilated quarters for sheep, many sheep are confined to stables which are not free from annoying dust, objectionable odors, and irritating fumes. Deprived of an abundance of pure air, sheep should not be expected to do well. As is the case with sunlight, not much expense is required to supply fresh air in abundance; though drafts, particularly cold drafts in damp quarters, should be avoided, for the sake of comfort, as well as to avoid colds or pneumonia which may result from excessively drafty quarters.

If disease organisms are to be avoided it will be well to give close attention to cleanliness. Feed troughs and water troughs should be kept

clean, for the sheep is a dainty feeder and is not likely to consume enough of either water or feed if these are dirty or supplied in dirty troughs and tanks. Some infections may be spread readily through feed troughs that have become contaminated through use by an infected animal. It is a safe plan to clean barns and pens each year before sheep go to winter quarters. Not only is it necessary to remove all manure and litter from floor and side walls, but it is essential to brush all dirt, dust, and cobwebs from ceiling and side walls. After this has been completed a good spraying with a strong creolin solution or some equivalent is desirable. Then, there should be an application of whitewash with a generous sprinkling of lime on the ground or floor. After this has dried, clean bedding should be supplied in liberal quantities.

CHAIRMAN FUNK: Dr. E. B. Simonds, of the State Livestock Sanitary Service, Baltimore, will discuss another phase of "Sanitation," in telling us of the tuberculosis eradication work.

TUBERCULOSIS ERADICATION WORK IN MARYLAND

DR. E. B. SIMONDS

Livestock Sanitary Service, Baltimore

Mr. Chairman and Gentlemen: When bovine tuberculosis eradication was started in Maryland in 1918, many of our herds were so badly infected that it had become an economic necessity to get rid of the disease and slaughter the reactors. Tuberculosis has been reduced to a point where the economic loss is of little importance, and our cattle owners are inclined to lose interest in the work, especially after their herds have passed a number of annual tuberculin tests.

Last year we tested 19,069 herds, 205,420 cattle, with only nine-tenths of 1 per cent infection. When we remember that several of our counties showed more than 36 per cent infection and that some districts ran as high as 55 per cent on the first test, this shows wonderful progress towards the entire eradication of tuberculosis. But we have not yet reached a point where we can stop testing our cattle regularly without grave danger of our herds becoming re-infected.

We found only nine-tenths of 1 per cent infection last year, but even this low infection means that 1931 reactors were found on 984 infected premises. In other words, there were nearly one thousand premises in the State from which it would have been dangerous for you to have bought cattle to put in your clean herds.

There are only three ways in which a herd is ordinarily re-infected: first, by introduction of tubercular cattle; second, when the infection is carried over and kept alive in some obscure place on the premises, which was not properly cleaned and disinfected; and, third, when the disease is carried by an animal, which for some reason does not react, and later becomes a spreader.

More than 90 per cent of the breaks in our clean herds are caused by bringing tubercular cattle into the herd and can be avoided by buying from herds that are known to be free from disease.

It is unusual for tuberculosis to be carried over on the premises or in the animal that has passed a negative test, but it is possible, and where this is the case the disease can only be discovered and controlled by testing the herd at regular intervals.

CHAIRMAN FUNK: This is the last paper to be presented before lunch. Mr. Carmichael has an announcement to make.

SECRETARY B. E. CARMICHAEL: The hotel management has prepared lunch for us in the adjoining room. Please find places at the tables there to suit yourselves and let us all return to this room immediately after lunch to complete our program. The hotel management will collect at the the tables 50 cents from each person.

A brief recess was taken, and approximately sixty-five people ate lunch together at tables which were set up in a room adjoining the one in which the meeting was held. The luncheon feature was a new one that seemed to promote economy of time and a better acquaintance among those in attendance.

In the absence of Mr. J. Kieffer Funk after lunch, Mr. W. R. Harvey presided during that part of the meeting which was completed after lunch.

CHAIRMAN HARVEY: In the absence of President Jones and Vice-President Funk, I have been requested to preside at the afternoon session, which will be a short one. This forenoon we did not quite complete the discussion of "Sanitation." Dr. Mark Welsh, of the University of Maryland, will discuss "Hog Cholera and other Swine Problems."

HOG CHOLERA AND OTHER SWINE PROBLEMS

DR. MARK WELSH

Inspector in Charge of Hog Cholera Work
College Park, Md.

Mr. Chairman and Gentlemen: For several years past, my predecessor, Dr. I. K. Atherton, and I, have been generously given time at your meetings to report on the hog cholera eradication program that has been conducted in this State since 1918. I feel that there is little need of going into the details of the way in which this work has been conducted, as I am sure all stockmen have heard it discussed many times. My report on the hog cholera situation this year will, therefore, be rather brief, but I should like to discuss later certain other problems of swine production that are of considerable importance.

Trying to raise hogs or any of the other domestic animals for that matter, without adequate sanitary precaution, is like pulling up hill with the brakes on. Our records have proved that in Maryland the

majority of hog cholera outbreaks can be prevented by the exercise of simple sanitary precautions. Since this work started in 1918, our records indicate that between 80 and 85 per cent of all outbreaks are caused by feeding cholera-infected pork scraps in garbage and kitchen refuse. The majority of this infected pork does not originate in Maryland, but is shipped in to us, as we produce only approximately 25 per cent of the pork and pork products consumed in the State. The purchase of new stock for feeding and breeding purposes, and the roving of sick hogs to adjoining premises account for an additional 10 per cent of our outbreaks. Approximately 94 per cent of all of our outbreaks are due to hog cholera virus disseminated by either live hogs or dead hogs. The prevention then, on any farm is essentially within the control of any individual who controls the feeding and moving of his swine.

Canada is perhaps the outstanding example where this disease is controlled by sanitary practices alone. Hog cholera virus in any form is prohibited in treatment procedures. When outbreaks occur, they are vigorously stamped out and handled much as we do foot-and-mouth disease, including compensation to the owners suffering losses. Since 1920, in only one year, 1928, has there been an appreciable number of outbreaks in Canada. Last year, there were five outbreaks in the whole Dominion, and it cost only slightly more than \$1,400 to stamp these out. The average cost per year for the past twelve years, has amounted to less than \$10,000 per year. This compares with an estimated cost of \$25,000,000 per year in the United States, where serum-virus treatments are commonly advocated as a solution of the problem. The number of hogs and concentration of the hog population of the United States, of course, is greater than in Canada, so direct comparison can not be made. It is evident, however, that the Canadian line of action is in the direction of eliminating the disease, while that in the United States is in the direction of perpetuating it.

I mention these two systems, as in Maryland we are attempting, and I think succeeding, in utilizing the best points of both. We believe that prevention by exercising sanitary practices is most practical and economical for the majority of farm swine herds. In those instances, however, where exposure to cholera is almost certain to occur, as in institutions or other premises where garbage is being fed, either adequate cooking of the product, or the serum-virus treatment, or both, must be resorted to, if losses are to be kept at a minimum. We insist, however, that the use of as potentially a dangerous product as hog cholera virus must be restricted to the hands of competent and responsible individuals. Our results over a period of years indicate that we are going in the right direction, as, prior to this work, hog cholera losses amounted to 70 hogs per 1,000, and have been gradually reduced to approximately 18 hogs per 1,000 at the present time. In other words, there is an apparent saving of some 50 hogs per 1,000 that were previously lost by cholera.

Last year, we had 442 outbreaks of cholera in the entire State. The

average number of outbreaks for the past 14 years has been 518, so there has been a lowering of 76 outbreaks from our average. Last year, many more people raised hogs for home consumption than in the past. Many of these had little or no experience in swine production, and, as in the past, this group experienced the major share of the troubles.

Of the 442 outbreaks, 382, or 86 per cent, were primary, or new cases. Forty-two, or 9.5 per cent, were secondary, or spread from primary centers, and 18, or approximately 4 per cent, were of undetermined origin. Infected pork scraps in kitchen refuse and garbage, caused 351, or approximately 80 per cent, of the outbreaks. Introduction of new stock caused about 4 per cent of the cases. The roving of sick hogs was responsible for 30 cases, or about 7 per cent. These results are in general accord with previous findings, and again indicate that the control of hog cholera is essentially a farm management problem. However, when outbreaks do occur, through carelessness or error, stamping out of the disease, and curtailing of losses is a problem requiring the best of veterinary skill and judgment.

I would like to deviate from the hog cholera problem to other swine diseases and conditions. The past year we have had an unusually large number of cases that were apparently due to faulty bone formation, caused by an inadequate diet. This is essentially a nutritional problem, which more properly comes in the field of animal husbandry. However, young, growing shoats and fattening hogs seem to be most frequently affected, and often present a clinical picture that is difficult to differentiate from an infectious disease. Because of its apparent prevalence the past year or two, I feel that this is another preventable condition that should be called to your attention.

Swine erysipelas, a bacterial disease, has been causing considerable trouble in the middle western states, but has so far not been reported in Maryland. It is essentially a herd disease that may occur as an acute infection causing heavy losses, or as a mild outbreak causing little trouble. In acute cases, there is a very marked elevation of temperature for two or three days, but in most cases the animals appear active and willing to eat. The infection may terminate at this point with no further trouble, or go on to a more serious stage, where the joints swell, breathing and pulse are accelerated, with considerable pain on movement, and death may result in a few days. In the more chronic form, the skin and ears may slough off, and the disease very commonly terminates in arthritis, or rheumatism, with enlarged joints. Often there is a curious diamond-like formation on the surface of the skin that stands up in little round lumps. This form seems to cause little economic loss. There seem to be no consistent post-mortem lesions, and the history and clinical symptoms, together with the laboratory finding prove the diagnosis. An anti-swine erysipelas serum has been developed that is giving good results, and there is every reason to believe that the same sanitary precautions advocated for control of hog cholera will also control any swine erysipelas outbreaks.

As was mentioned previously, this disease has not been reported in Maryland, but it is prevalent throughout the European countries, and unless we take due precautions, may spread throughout the swine herds of this country.

Another condition we have found that is causing considerable economic loss, is intestinal parasites in swine. One round worm during its life produces a million or more eggs. These do not hatch or begin development within the hog, but outside in the feed lots, pens, pastures, and water holes. Under ordinary weather conditions, it takes about three weeks for the egg to mature sufficiently to infect the pig. These eggs, when picked up with the contaminated feed or water, soon hatch young worms which migrate through the body of the pig, and locate for a time especially in the lungs and liver, reaching full development later in the intestines. The presence of these parasites in young pigs is often indicated by thumps, and in larger pigs by coughing and by their unthrifty, pot-bellied appearance.

The round worm is only one of several varieties of intestinal parasites that prevent pigs from making profits. Treatment of infested pigs is not very satisfactory, but, if treatment is to be given, good anthelmintics should be used. The two most reliable are worm-seed oil and carbon tetrachloride.

The most satisfactory method of handling this problem is by preventing the young pigs from being exposed to infestation from dirty old pens and feed lots. Having the sow farrow under clean conditions and keeping the young pigs on clean ground for the first month, will do much in controlling these parasites. I presume you are all familiar with the McLean County plan of pig sanitation, or modifications of it. It certainly should be more widely used.

Drugs, serums, vaccines, and other biologics have a definite and valuable place in the treatment of animal disease. The need of these agents, however, is caused most frequently by improper feeding or management, or lack of sanitation, or combinations of these. The majority of our livestock diseases we bring to our own premises—usually in the form of an infected animal. Sane sanitation, that costs nothing, is preventing more disease every day than the millions of dollars that are spent annually on drugs and nostrums.

CHAIRMAN HARVEY: A problem that is always of interest to stockmen is that of selling the stock well after it has been produced. We will now hear from Mr. I. Bosley Baugher, of the E. A. Blackshire Co., Baltimore Union Stock Yards, on the topic "Marketing."

MARKETING LIVESTOCK**I. BOSLEY BAUGHER**

Union Stock Yards, Baltimore

Mr. Chairman and Gentlemen: It is, indeed, a great pleasure to be here this afternoon. As Mr. Harvey said he is pinch-hitting for Mr. Jones, I am here pinch-hitting for my father. I want to tell you that he is very sorry that he cannot be here.

We were asked to talk about the outlook and prospects for 1934. Now, as far as the outlook goes for the year 1934, I think it is promising. I do think we all feel a little better, that there is something a little better in the year before us than there has been in the past. We know that our Government in Washington is making a real, honest effort to do something, and if we all get behind the Government and do what we can, I believe we can look forward to a little better time for 1934.

I am going to make my talk very brief, and I am going to confine it to the Stock Yards. We have good abattoir and Stock Yards. I think that you are all very well acquainted with the service and facilities, the good equipment we have. We do not have to take a back seat for anyone. We can render any service required. We are ready to give all the service and help in any way we can. We want all of you to feel free at any time to call upon us for favors or for any service—we are there ready to help and do all we can.

Now, in regard to Baltimore as a market, I think I am justified in saying that we have one of the best markets in the United States right here in Baltimore. I think our price scales run higher on the whole than any other market in the United States. That is something that should be helpful to the farmers and stock growers of this locality.

The cattle markets, of which Baltimore is a typical one, are a necessity to you people. You have got to have some place that a standard of values and a price level can be set, and without your markets I do not see how you could be very well informed as to the market value of your stock.

Now, in order that Baltimore might do that for you it is necessary that Baltimore receive a large percentage of the stock at the Stockyard to market to the buyers in this section. I am sorry to say that perhaps where we fall down most is in our calf market. I do think to a large extent you gentlemen are to blame for that. We do not get enough sales on our market to really establish a market on a fairly comprehensive basis with other markets. More of your calves go direct to the consumer than come to the stockyards. The buyers of the calves do not have to look to the Stockyards for supply and as long as they do not do that, it is pretty hard to keep your price level, or raise it. We get a larger percentage of other stock on the whole than we do of calves, I think.

Mr. Jones, your President, at the session this morning, brought out the

advisability of improved production at this time. We all know that our Eastern packers have to go West for high-grade stuff, cannot depend on Baltimore market for it. I think we are getting further away from poor quality of beef though, and the advisability of that has been ably brought out by many of the gentlemen who have talked here this morning. Of course, you can get a market for poor goods, but the better finished product is another thing. We need here in Baltimore a yard around the market.

Another thing to be considered is the condition of the stock upon arrival at the Yards. When you are preparing to market your stock take it just the same as if you were going to keep it on the farm, and bring it to the Yards in a condition that is fair in respect to weight. You will find that your buyer will look to the quality and condition of the stock as probably the most important elements in determining the price he can pay for it. You can readily understand that if the stock comes to the Yard it is going to be paid for according to its condition.

As I said before we are ready to serve and help you. I want you to feel free to call upon us at any time.

Mr. Skeffington is going to go more into detail about some of the things that you are interested in, and he will furnish you with more information than I can. I am going to take great interest in hearing what Mr. Skeffington has to say.

CHAIRMAN HARVEY: Mr. L. T. Skeffington, of the Eastern Live Stock Cooperative Association, Inc., Baltimore Union Stock Yards, will further discuss "Marketing."

MARKETING LIVESTOCK

L. T. SKEFFINGTON

Union Stock Yards, Baltimore

Mr. Chairman and Gentlemen: It is with deep feeling of pleasure that I greet you representatives of the Maryland livestock industry.

The Eastern Livestock Marketing Association has now been operating on the Baltimore market since August 1, 1932, and at Jersey City since May 5, 1933.

It has given me great pleasure to be associated with this original cooperative effort in the marketing of livestock in this territory. The initial success of the undertaking has also been a satisfaction. This year, even with low livestock prices, we handled just over \$1,000,000 worth of livestock.

It was felt by the producers in this area that they should endeavor to get a better knowledge of the conditions surrounding sale of their livestock in this territory. This moved some of our principal growers to establish the Eastern Livestock Marketing Association. These men and myself realized that the strongest cooperation of all interests relating to

livestock marketing is necessary if the livestock producer is to get his just dues out of the industry.

The farmer, who produces livestock is the foundation of the whole industry, and as you men all well know, the last few years have been disastrous to livestock producers. Other branches of the trade have also suffered, but when the foundation has been irreparably damaged, the structure which stands on this foundation is necessarily weakened. Low prices for the past few years have driven a good many producers out of the field of production of livestock, and many more are barely able to continue their operations. It is unnecessary for me to call these facts to your attention, other than to contrast them with the hopeful situation which now seems to be immediately in the offing. I do not wish to take your time to detail the various influences that are now at work, and which appear to be sufficiently strong to advance livestock prices. I do, however, want to enumerate some of the principal ones, without giving their probable effect upon marketing conditions, as this would entail considerably more discussion than I have time to give to it at this meeting. Here are some of the principal factors which should advance cattle prices: In the last few months there has been a decided increase in the number of cows and heifers sold under Federal inspection, and this is the first indication of later decreasing receipts. Government action has been speeding up Bang's disease testing and testing for tuberculosis. Furthermore, the Government has been loaning money on corn, which has tended to make feed prices out of line with livestock prices, and thereby to decrease production.

There is one other move which the Government has made with relation more particularly to hogs; that is, putting on a processing tax. This tax, as was expected by those best informed, served only to reduce the market value of hogs. At the same time, prices to the consumer have advanced. This tax will undoubtedly advance pork later, and this should help the cattle market. Last year there was a Government movement which disposed of a vast number of pigs. The effect of this slaughter is now beginning to be felt, and hog prices are expected to show early improvement.

According to all statistical reports, there has also been a marked improvement in industrial conditions, which should tend to increase consumers purchasing power, and this would eventually reflect higher prices to livestock producers. Governmental expenditures on relief work and State construction projects have also tended to increase the purchasing power of the consuming public.

Wool prices have advanced, and, with the depreciation of currency, there has been a tendency to increase exports of agricultural commodities. All of these things tend toward balancing production and consumption in this country, and will undoubtedly have an improving effect on prices of livestock during the year 1934.

There are a number of things, however, that should be called to the

attention of the producer, if he is to help in this matter of livestock improvement.

The matter of direct marketing has been a bone of contention for a number of years, and undoubtedly is a bearish price factor. It is true that direct marketing has been conducted most extensively in the field of hog selling, but it has been gradually spreading to lambs, calves and cattle. Our own particular market here at Baltimore is a good example of the effect of direct marketing upon price levels. Most of the time the Baltimore calf market is \$1.00 to \$1.50 under Jersey City, and I have known, in the past year, many times when top calves at Jersey City out-sold top calves at Baltimore by \$3.00 per cwt. It appears that a condition of this kind could not continue, were it possible for enough calves to be marketed at Baltimore on the open market. However, there are not sufficient calves coming to Baltimore to induce any outside competition, hence price levels are only moderately affected by other markets.

The situation in hogs is very much more pronounced, but is not as easily illustrated, as the direct movement now represents such a large percentage of hog marketings. The Eastern packer, and the Eastern livestock producer, should be in accord in a desire for higher prices. Lower prices work to the disadvantage of the Eastern packer as well as producers all over the country. Mid-West packers who are located in the principal producing centers, can slaughter and move their product much more cheaply than the live animals can be moved to the East for slaughter. When prices are low, this differential has a much stronger bearing upon the trade. Dumping tactics are also practiced by many Western packers, and many of our small packers in the East find themselves having to meet a competition which is, to say the least, very unsatisfactory in this respect.

There are a number of things that I would like to suggest here in regard to some of the favorable conditions surrounding the marketing of livestock for Eastern growers.

I would like to call attention to the fact that there is a period during the year when it undoubtedly would be profitable for Eastern producers to market lambs. During the months of January, February and March our markets at Baltimore, and in fact all the Eastern markets are short of lambs. During that time it is common for lambs to sell at Baltimore and Jersey City \$1.00 to \$1.25 per cwt. higher than at Chicago. This price differential should be an inducement to our growers to furnish some lambs for these markets at that period of the year.

Baltimore as a hog market is probably the best in the country, and, freight rates considered, will usually net more for producers than any other market.

There are, however, due to the fact that Eastern packers must get a large portion of their supply from the Mid-West, times when it is almost impossible to clear the market of hogs, and prices at those times are comparatively low. Were it possible for Eastern producers to furnish a

sufficient supply of hogs at this market to take care of the needs of the market, prices would undoubtedly be more stable.

I realize that I have touched upon this subject more or less at random, but time would not permit any intimate discussion of the points involved. I have, however, called attention to certain facts which appear strong enough to improve livestock prices during the coming year, and I hope that we all can acquire an optimistic viewpoint that will be justified during the year 1934.

CHAIRMAN HARVEY: Mr. J. J. Hurd of Kent County, a young man who has for a number of years, been active in Boys' Club work, will discuss some phases of Four-H Livestock Clubs from the standpoint of a club member.

FOUR-H LIVESTOCK CLUBS

J. J. HURD, JR.

Kent County.

Mr. Chairman, Ladies and Gentlemen: As a Four-H Club member and member of the Maryland Stockmen's Association, I would like to discuss briefly some matters that are of interest to Four-H Club members and stockmen of Maryland.

I think you gentlemen realize that in some cases the Four-H Club members of today will be the future outstanding livestock men of the country. In Maryland, today, Four-H Club members own a substantial amount of the purebred livestock. Is this not a hopeful sign? And still greater work which is not recognized by ribbons or money prizes at shows is the important result of young members' purchasing and using prepotent sires of desired quality, type, and breeding.

Quite often in Maryland a barrow or steer being grown out by a Four-H Club member is not good enough for showing, but this member has produced an animal which will have a good market price or will be worth even more in the family pork barrel.

The following are some conditions which I think the Stockmen's Association could improve:

1. There has been a grave mistake made in selling highest quality cattle to Four-H Club members at a low price. They should pay for, and learn to appreciate, the quality of animal they have.
2. The county agents and livestock men should help the boys to understand intelligently the pedigrees of different livestock, and to make complete and correct entries at shows.
3. Registration papers should be transferred or made out immediately after sale to keep up the interest of purchaser.
4. Some stockmen have sold scrub livestock to club members who were not good judges. These men should not, and probably will not, last long in the business of producing purebred livestock.

5. In Maryland there is a very good system for Four-H dairy cattle judging work, but practically no work is done in Four-H judging of other kinds of livestock. If Maryland boys should attend Western agricultural colleges, as they will soon begin to do, because of the good equipment there for livestock work, they will be poorly prepared as livestock judges. I think this situation exists because of the fact that county agents are "dairy minded," and stockmen do not stick together and sponsor Four-H judging of other livestock.

More attention should be given in the Four-H Clubs to producing market barrows, wethers and steers in Maryland. In our State rarely ever does a club member feed out a litter of pigs or a group of steers. I venture to say 150 steers and an equal number of wethers and barrows could be brought into the Baltimore Livestock Show next year if this association would sponsor the production of fat market animals, with "Dad" Jenks, our State Club agent, leading off in his way that appeals to the boys. The stockmen have set us wonderful examples of breeding, feeding and selecting livestock. From their experience we can profit, but if we are to start boys in the livestock business, some means of attraction must be presented.

CHAIRMAN HARVEY: Next we will have another angle of Four-H Club problems presented by a County Agent, Mr. John W. Magruder of Howard County.

FOUR-H LIVESTOCK CLUB PROBLEMS AND PROSPECTS FOR 1934

J. W. MAGRUDER
County Agent, Howard County

Mr. Chairman, Ladies and Gentlemen: In the brief period of ten minutes it is difficult to discuss all of the problems of livestock production, namely, beef cattle, hogs, sheep, horses and mules, and the part Four-H Clubs can play in the State livestock program. Also, it is rather embarrassing to me to discuss with you work that we should be doing in our respective counties, and then go home and not do much about it. This is my case, however, since the most of my time during the next year will be devoted to work in connection with the Agricultural Adjustment Administration, from all indications. I shall do my best, though, in discussing some of the things that I feel we should be thinking about and doing in order to improve Four-H Livestock Club work.

One of the first essentials in a successful Four-H Club program is to have a common understanding of the program by all parties involved. The State Boys' Club agent, the livestock specialist, the county agent and all others who are cooperating should know the aims and objectives of

the particular work to be undertaken, and definite policies and plans should be agreed upon by all before inaugurating the work. I believe the lack of this understanding has caused considerable confusion in Four-H Club livestock work in the past, and often has prevented it from being as successful as it might have been. This is especially true in baby beef club work.

During the past years Four-H Club livestock work has been confined largely to pig club work and baby beef club work. In looking over the 1930 census of livestock (not including dairy stock) in Maryland, I found that cattle not used for commercial dairy purposes totaled 41 per cent of all the livestock in the State, based on animal units (one animal unit equals one horse, two colts, one mule, one head cattle, two young cattle, seven sheep, or five hogs). Horses and mules totaled 41 per cent, and hogs and sheep made up 9 per cent each. In other words, 82 per cent of the livestock animal units on Maryland farms are either beef cattle or horses and mules.

It appears from this that possibly too much attention has been given to swine work in relation to horses and mules. In view of these facts and also in view of the rather serious condition confronting farmers in a shortage of work stock, I am going to confine my remarks to Four-H Club work with horses and mules.

There are several problems confronting the farm work stock situation. First, there is an apparent shortage of draft horses and mules for farm use and this condition will undoubtedly become much worse. Second, there is a definite shortage of good stallions and good mares by which to breed more good horses. Third, farmers in Maryland, in general, use very crude methods of hitching and working horses and mules, and do not take advantage of using larger teams. Fourth, there is apparently a lack of knowledge on the part of many farmers in the proper feeding, care and training of draft horses and mules. Fifth, the true value of the horse-power over tractor for motive power for many jobs on the farm has been lost sight of during the period of rapid development of improved machinery, and also the value of the horse as a market of surplus farm products has been overlooked.

We cannot work on all of these problems in Four-H Club work. but I feel that the boys, especially the older club boys, can help promote a constructive program in some of them. Many of our young men today have not had much experience working with horses since the tractor, truck and automobile have replaced horse power on a great many farms. Club work to teach the boys the value, adaptability, and economy of horse-power for many jobs on the farm. and how to judge, breed and manage horses should be of untold benefit.

There are four main phases of horse and mule Four-H Club work that I believe we should consider:

1. We should arrange for county and possibly State Four-H Draft Horse

Judging Contests. We have been developing dairy cattle, poultry and swine judging teams for years, but I don't believe there is any livestock adapted to judging by the eye better than the draft horse. The relation of conformation to production is not nearly as accurate in dairy cattle and poultry as with horses.

2. Many of our Four-H Club boys, 18 to 20 years of age, should be encouraged to breed good colts for farm use. By cooperating with their dads in getting good brood mares and in arranging the service of a well-bred stallion, many club boys should start raising colts for their future farm or their dad's farm.

3. A study of the proper feeding, care and management of horses and mules could be made by the club boys. I believe the Maryland Experiment Station could well prepare a bulletin covering this subject under local conditions that would be helpful to the farmer as well as the boys.

4. Older Four-H Club boys. I believe, would make splendid co-operators in introducing the use of the multiple-hitch to Maryland farmers.

In addition to these suggestions, I believe that a pulling contest for Maryland horses might be inaugurated by the Maryland Stockmen's Association and would be helpful to both the boys and their dads in teaching the proper hitching and handling of work animals. The necessary equipment in conducting the contest could be acquired by the Stockmen's Association and used at the local horse shows, county fairs, and possibly the State Fair.

CHAIRMAN HARVEY: In these days of agricultural adjustments, much attention is being given to the Corn-and-Hog Program. Mr. Paul Nystrom of the University of Maryland has given much attention to this question and will briefly discuss it now.

THE CORN-HOG PROBLEM

PAUL E. NYSTROM

Extension Economist

Extension Service, University of Maryland, College Park.

Mr. Chairman and Gentlemen: A discussion of the problems confronting the Maryland stockmen in 1934 would be incomplete without a discussion of the corn-hog problem. In the ten minutes allotted to me on your excellent program I shall attempt to outline briefly the nature of the problem and the principal provisions of the program which has been devised to meet the situation. At the outset, we must realize in Maryland that we are a part of the National situation, subject to the same price-fixing forces that affect the country as a whole. We must also have in mind the size and scope of the corn-hog problem in the United States.

The corn-hog program, which the United States Department of Agri-

culture is now offering to American farmers, is the largest of the agricultural adjustment programs offered to date; in fact, it is as large as all the others combined. Some idea of the size of the corn-hog program is obtained by the following comparison of the sums of money to be disbursed in the current year under the various programs:

Corn-hogs	\$350,000,000
Cotton	110,000,000
Wheat	107,000,000
Tobacco	40,000,000

The wheat program in which we participated seems immense. Yet the annual production of corn in the United States, of which more than two-fifths is fed to hogs, is nearly five times as great as the annual production of wheat. The number of bushels of corn annually fed to hogs in the United States is nearly two times the number of bushels of wheat produced annually.

The principal economic facts underlying the corn-hog situation may be summarized briefly as follows:

1. Shift in the uses of corn.

THE USES OF CORN

Use	Pre-war period	Post-war period
	1910-1914 per cent	1924-1929 per cent
Industrial and city uses.....	18	12
Hogs	37	42
Horses and mules.....	17	14
Beef cattle and sheep.....	17	20
Other farm uses.....	11	12
Total	100	100
Average production of corn, bushel.....	2,614,000,000	2,610,000,000

The above data indicate why the corn problem is closely allied with the hog problem. Forty-two per cent of the corn crop is fed to hogs. The replacement of 12,000,000 head of horses and mules by tractors and the decrease in industrial and city uses has released corn for the feeding of hogs and other livestock.

2. Loss of export market.

European countries are attempting to become self-sufficient, thereby decreasing our export market. Our exports of pork and lard in 1923 amounted to 2,000,000,000 pounds. In 1932 exports amounted to 700,000,000 pounds, the smallest amount in fifty years.

Germany, our leading lard market, now has a tariff of 15 cents per pound.

Great Britain, our leading pork market, formerly imported nearly 25 per cent of its supply from the United States. Recently she has established import quotas, giving us a quota of 6 per cent.

3. Surplus pork resulting from a diminished export outlet is a semi-perishable product and does not pile up in storage, as in the case of wheat, cotton and tobacco, but is dumped on the domestic market.

Principal Features of the Corn-Hog Program

The objectives in the corn-hog control plan, as in other production control plans, are to bring supply and demand into better balance and to approach as rapidly as possible parity prices for farm products. To attain these objectives whole-hearted cooperation of farmers is necessary. Liberal benefit payments are made to farmers as an inducement for voluntary cooperation. Benefits to corn-hog producers in consideration of cooperation will be paid as follows:

(a) Rental payments of 30 cents per bushel, less pro-rata share of administrative expenses, on the estimated yield of corn on the contracted acreage, providing the producer agrees to reduce his corn acreage in 1934 not less than 20 per cent of the average acreage grown during 1932-1933.

(b) Adjustment payments on hogs of \$5.00 per head, less pro-rata share of expenses, on 75 per cent of the number of hogs farrowed on the producer's farm and raised for market, providing the producer reduces the number of litters farrowed in 1934 by 25 per cent and the number of hogs produced for market from those litters by 25 per cent from the 1932-1933 average.

The corn-hog program covers one year only—December 1, 1933, to November 30, 1934. The producer agrees to be bound by administrative rulings pertaining to the contract, and not to increase in 1934 above 1932 or 1933, whichever is higher:

- (a) the total acres of crops planted for harvest,
- (b) the acreage of each crop for sale designated as a basic commodity in the Act,
- (c) the total acreage of feed crops other than corn and hay,
- (d) the number of any kind of livestock or product therefrom designated in the Act, and
- (e) the aggregate corn acreage on all other land owned, operated or controlled by him.

The minimum requirements for eligibility are ten acres of field corn harvested for grain. A producer must contract for both corn and hogs if he is eligible for both. However, he does not need to contract for hogs if the average number of litters in 1932 and 1933 was less than four.

The contracted corn acreage may be selected in any field on the farm, providing that corn has been raised in that field one year in the last five. The producer will indicate each crop and the yield thereof that was produced in that field in each of the past five years. The field will then be appraised as to the yield of corn which that field would produce in a normal year. The benefit payment will be paid on that appraised yield.

The contracted acreage will be rented to the Government for the duration of the contract. No crop may be harvested for market on those acres. The seeding of a grass crop for harvest as hay or pasture in 1935 may be permitted. Soil-improvement and erosion-preventing crops to be plowed down are permitted. The field may remain in old sod provided that it is not cut for hay or pastured. The contracted acreage will be released for other crops on November 30, 1934, except that winter grains may be seeded at the usual time of seeding for harvest in 1935.

Silage corn shall not be included in determining the minimum number of acres for eligibility. However, in determining the maximum acreage in corn for purpose of determining the number of contracted acres, silage corn shall be included. Sweet corn, however, is excluded.

In the event of cash leases or other leases in which the landlord does not share in the corn or hog crop, the tenant may sign the contract alone. If the landlord shares in the crops, he must sign the contract.

Time will not permit a full discussion of the program and the innumerable questions which arise. The plan will be discussed more fully in meetings to be held during February and March in most of the Maryland counties.

An effort will be made to give every eligible corn and hog producer an opportunity to consider the program as affecting his individual case and to participate in a program for improving agricultural income.

At the conclusion of Mr. Nystrom's address numerous questions were asked and answered, indicating an active interest in the corn-and-hog problem.

Chairman Harvey: This is very interesting, but time will not permit us to continue the discussion longer. If you have further questions, get in touch with Mr. Nystrom after the meeting, or write him at College Park.

This concludes our program for this session. Plan to attend the dinner-meeting at the Congress Hotel tonight at 5.30, for a good time is in prospect. This session now stands adjourned.

Wednesday, January 10, Congress Hotel, Baltimore

The evening dinner-meeting session was held at the Congress Hotel, Baltimore. About one hundred and forty people were present. President J. W. Jones presided as toastmaster. The program was shortened greatly on account of the desire of many to hear Secretary Wallace who spoke later at the Lord Baltimore Hotel.

PRESIDENT JONES: Ladies and gentlemen, you all seem to be having a genuinely good time, and a great many of you seem disposed to keep on having a good time. However, I shall have to ask you to come to order, so that we may proceed with our evening program. If we can have as

good a time tonight as we had this morning in the meeting up to the time I had to leave, I think our annual meeting will be very successful.

You men look like real business men, you don't look like farmers today, but then you have to be a good business man today to be able to stay on the farm. I am glad to see so many young men here. These young people coming on today are better able to cope with the various problems than many of us older men are.

I hope that nobody will leave to go down to the Lord Baltimore Hotel before we finish, because, though I feel very confident that we are not going to be able to finish this program before it is time for the beginning of the later meeting, we do expect to get through in time to hear a good part of the address of Secretary Wallace down there.

First of all we will call on Mr. K. A. Clark to make a report of the 1933 Purebred Ram Sales, sponsored by this Association and the University of Maryland Extension Service.

1934 RAM SALES REPORT

K. A. CLARK

Frederick County

(Formerly with the University of Maryland)

Mr. Chairman, Ladies and Gentlemen: We are all more interested in the rest of the program than in my part of it, so I will not take up much time talking about the ram sales. I am going to give a very brief report of our ram sales that took place during 1933. Five sales were held, one each at Pocomoke City, Timonium, Centerville, Boonsboro and Oakland. At these five sales 95 rams were sold at an average of \$19.21 per head.

SUMMARY, 1933 RAM SALES

Location	No. of Rams Sold	Total Proceeds	Average for Each Sale and for all Sales
Centerville	34	\$861.50	\$25.34
Pocomoke	16	232.75	14.55
Timonium	8	192.00	24.00
Boonsboro	13	211.50	16.27
Oakland	23	327.50	14.24
Totals and average	94	\$1,825.25	\$19.42

Perhaps you are as much interested in a little of the history of these sales as you are in a report of the 1933 sales. To me the history of the ram sales in Maryland is more fascinating than last year's sales account. We started our sales at College Park in 1926, and in 1933 we had our eighth year of ram sales. During this time we sold, or placed in the hands of sheepmen in Maryland and nearby sections, 543 rams, and I think

I am safe in saying that the county agents, the purebred breeders in the State and others were instrumental in placing an additional three or four hundred rams in the hands of flock owners. This number of good, purebred rams scattered over the State has undoubtedly resulted in a great improvement in our Maryland flocks.

SUMMARY OF RAM SALES FOR EIGHT YEARS

Year	Rams Sold	Average
1926	26	\$41.57
1927	39	35.37
1928	40	35.67
1929	45	58.46
1930	57	31.47
1931	122	16.21
1932	119	14.91
1933	94	19.42
Rams sold		542
Total returns		\$13,889.25
Average price per ram.....		\$25.63

As for the future of the sales, I may say that I am intensely interested in seeing them carried on. They are a great institution and should continue. I am certain the purebred breeders will support the sales in the future under new management with the same spirit, loyalty, and cooperation that they have exhibited during the time the sales were under my management. Mr. Jones, that is all I have to say, and I thank you all very much.

PRESIDENT JONES: One of our speakers this evening is a man who, though comparatively new to Maryland, is known to many of you. He is a native of Illinois and a graduate of the University of Illinois. He has farmed in Illinois, Iowa, and Pennsylvania and has done animal husbandry extension work in Pennsylvania. He is now Extension Specialist in Animal Husbandry at the University of Maryland, and we shall be glad to hear him tonight. I am pleased to introduce to you Mr. Joseph M. Vial, who will speak on the subject "Maryland Opportunities."

MARYLAND OPPORTUNITIES

JOSEPH M. VIAL

Extension Animal Husbandman

University of Maryland, College Park

Mr. Chairmen, Ladies and Gentlemen: Before straying too far afield, I want to capitalize on my opportunity and express my pleasure for having this chance to appear before this body of livestock men and women and thus making your acquaintance. Again I want to acknowl-

edge publicly all of the kind and generous expressions of welcome to your State which have come to me by mail and word of mouth from many present and some others who are unable to be here tonight. You have been most thoughtful and homelike, and I assure you that I shall ever cherish the same and endeavor so to perform while working with you that you may have no regrets.

What about opportunities for Maryland livestock men?

Well, opportunity has a peculiar manner of working. It puts in its appearance, you grab it or you don't, it goes. Speaking of opportunities, my father always enjoys telling this one on me as a prime illustration of lost opportunities.

Father and I boarded a pullman at Bloomington, Illinois, for Kansas City, Missouri, one very hot, sultry September evening. We were bound for the Yards there, to purchase feeders. We had reservations for two lowers, but a less fortunate brother in the form of a big fleshy traveling man apparently was unable to secure a berth. He sat down opposite us with the drops of perspiration as big and flat as nickles rolling off his moon-like countenance. Father being rather chicken-hearted offered our newly acquired fat friend his lower, saying that he would double with me. Needless to say, our neighbor accepted father's offer. Dad soon retired, and I visited in the club car until later. On retiring, naturally I drew the position next to the aisle. Being a sound sleeper, I was doing full justice to the job when about 2.30 A. M. I became aware of the fact that someone was desperately trying to get me to move over in the berth. *She* had hold of the front of my pajamas and in much the same manner with which she might have rubbed clothes on a washboard was struggling to awaken me saying, as she did so, "Get over John, get over John, please John." Now, my name is "Joe," but I partially came to, and in my dazed semi-conscious condition replied, "I can't, Dad's in here."

A shriek pierced the atmosphere of that pullman, and my opportunity fled in the direction of a berth a couple sections to the rear of us, from which friend husband called, "Kate, I'm in here." All I saw of my fleeting opportunity as I stuck my head out between the curtains of my berth was a pair of bare feet hastily drawn in with John. Gone!

Opportunities are ever thus, not prone to wait until we fully wake up.

Never do I appear before a group of Eastern livestock men but that I feel duty bound to point out some very distinct advantages which you have as contrasted with those of us who have been born, brought up and farmed in the Central West. Advantages which I trust you all realize, but in these days of discouragement, it may help renew your faith and stimulate your courage to fight a wee bit harder for having them pass in review once more before your eyes.

Take, if you will pardon the personal reference, my own situation for a period of years on a typical livestock farm of northwest Iowa. Good, flat, black soil, elegant corn land, every foot of it, still your average corn

yield per acre is about the same as it is for Iowa. That farm sold in 1919 for \$300 an acre; interest alone at $5\frac{1}{2}$ per cent makes pretty dear rent, compared to the same item in the East. Your legal rate of interest for a cattle-feeding venture or some like enterprise is 6 per cent; in Iowa, it is 8 per cent on anything short of money secured by a farm mortgage. Taxes out there are from 1 to 2 dollars per acre! Here they run on the average from 50 cents to \$1.50, and last year father paid \$5.40 an acre on an Illinois farm.

Our Iowa land, while being good corn land, was not good pasture land. Aside from the first month or two in the spring and early summer, our pasture was a splendid gymnasium where the stock could and did exercise to excess fighting flies, and even though it was good, how much good \$300 an acre corn land could you devote to pasture? We had only one scrubby elder tree on the square mile of dirt; in other words, no shade, no running water, our stock well was 320 feet deep, and invariably the pump would go haywire some breezy day when the thermometer stood 20° below zero or better. Our climate had vast extremes compared to your relatively moderate seasons. You have shade, spring water, often pumped and delivered by Providence, rolling grazing lands, which if given a chance, are a livestock man's paradise, adjacent acres that produce ample corn, barley, clovers, and alfalfa. Yes, men you are blessed with opportunities perhaps in spite of yourselves.

Aside from all the natural benefits which bound you on every side from the livestock viewpoint, your market is at your very door, ours was Chicago, 400 miles distant; two nights and a day in a stuffy ill-ventilated caboose at the tail end of a string of cattle cars to follow your livestock to market. Sometimes obliged to unload and feed and water in transit because the receipts were so heavy they couldn't let you come on in. Then you'd hit Tuesday's market instead of Monday's and invariably get two bits to one dollar less per cwt. than your most intelligent calculations when you planned to ship could have induced you to expect.

Many's the time I've gone home with only the livestock man's profit, namely, the manure and the experience about my sole consolation. Don't for one minute feel that I don't appreciate those two factors, they are both invaluable and indispensable.

How about your opportunities as compared with that? Most of you could run into market, look the situation over, go home, and load your stock and be back before the market closed, possibly that same day. You have rail, water, and motor transportation facilities. You are in easy reach of—I was going to say half a dozen markets. In other words, about one-sixth of the consuming public of the country are standing at your very elbow, with their mouths wide open for your products. While we in Iowa cursed high freight rates, you can at least be grateful for their existence, if they be high. They are a protective tariff for you Eastern livestock men. In August, 1931, corn from the old farm in Iowa could have brought 7 cents a bushel, 56 pounds of shelled corn, at the local

elevator there, at the same time the freight on that same bushel to Chicago was 14 cents, and you can thank your lucky stars that it was even more to Maryland.

Again, in Iowa, for the most part, our eggs were all in one basket, or what amount to the same thing, corn and hogs. Yours is a diversified agriculture. If you are close to a town of any size, you naturally make dairying a factor in your program, and in spite of all the ups and downs of late, people will always drink milk. To you men, I am rather inclined to believe the present demoralized state of your industry may be the greatest blessing that ever came your way in disguise. You'll at least have the opportunity to cull, and cull rigidly. You will evolve a system of production such as prosperous years never develop. The clumsy duplication and wasteful practices of the present distribution systems may get smoothed up, oiled and hit off on every cylinder again in a manner never dreamed of before.

You beef cattle men—some say the beef industry the country over is on the rocks, and market quotations on steers in recent months have not been very stimulating to the pulse. The steer business has always been, and probably always will be, a gamble; that's perhaps the factor involved that gets us Americans interested in it. Your opportunity, in my very humble opinion, is to reduce total poundage by sticking to the baby beef phase of the game, keeping him popping right through from his dam to market.

You naturally ask what about the rough feed. My reply is, feed it to this calf's dam; in other words, there is, in this new order of things, going to be a logical tendency for a few, rightly situated and inclined, to run either a commercial breeding beef herd, or a purebred herd. The tendency in this State is already shifting that way. Are you aware of it? It's there, but let "quality products" be the watchword with you Maryland producers.

You sheepmen don't feel so downhearted as some of the rest of the boys; wool and lambs both have done you fairly well this past season, comparatively speaking. But don't get careless and expand; play the game on an even keel, use still better rams this year; plug up the blanks in the ewe flocks with better, stronger, more vigorous ewes. Your early lamb outlet in much of the State is an opportunity many appreciate, and it certainly solves many of the hazards connected with flock husbandry—getting these lambs off to market before they have to trail the ewe flock back onto the same old pasture.

Our Maryland purebred breeders of sheep have, and I fully believe they appreciate it, an enviable position for producing good bucks for you market lamb producers. Your opportunity is to produce them even thicker, deeper, more compact, vigorous; and, for our trade, don't sacrifice quality too much. Your field isn't crowded, the better job you do, the longer you'll last.

You swinemen have had your troubles, too, and just what opportunity is yours in view of the corn-hog reduction program may be pure con-

jecture. However, one opportunity which relative few of you apparently are taking advantage of, is more extensive use of clover and alfalfa pastures in your economical hog production. This will result in the saving of one-third of your grain bill if properly handled. Again, I am not so sure but what, in view of the new arrangement of things, it would be worth considering a campaign to encourage the production of *at least three* litters on each farm of the State per annum, and possibly this, together with an expansion of your already common practice of farm slaughter and curing of pork, might not be unwise.

Are there any horsemen present? Yes sir—and strange as it may seem—you're glad you're here, and so is your neighbor, and you're both not ashamed to admit it this time. Are there any opportunities for you? Yes—and, for the first time tonight, I feel justified in recommending a modest expansion of this phase of the livestock program. An opportunity for some of you, but don't wreck the parade by breeding any kind of a mare to just anybody's horse. If you have a good, sound, useful mare of outstanding type and character, take pains to mate her to a worthy sire, and then give the foal a chance; and, for some years to come, you'll receive your just reward for your efforts. If it seems logical to get more stallions, boys, be sensible in the method you use in doing so; get a good purebred stallion, don't for one minute countenance a grade stallion or a pedigreed scrub, but realize, too, that the highest-priced stallion is not necessarily the best. To give you an idea of how outstanding stallions are selling, the grand champion Percheron stallion of the International this past December was priced \$1,500. Yes, you say, but he was 13 years old. He was, and a real horse—the junior champion and reserve grand champion of the same show was a two-year-old, and was sold for \$1,500. The grand champion of last year's show was a four-year-old, and if I am not misinformed, brought \$1,800 or less.

Be wary of the abuses of the old community stallion clubs wherein a total stranger comes in with a horse to organize as many of you as possible into a club at \$200 or \$300 around as long as they last. Beware of a neighbor who will sell his good name and reputation by accepting a free share in this horse as bait for sucker neighbors. He is, in my opinion, the world's meanest man.

To you concerned with meats, be you packer, slaughterer, retailer, farmer or consumer, there is an opportunity for you. Couldn't a well organized campaign, reaching and cooperating with various existing agencies, be devised to instruct and acquaint the consuming public with all cuts and kinds of meat, their place in the diet, successful means of preparation, displaying, handling, and cooking? My feeling, in spite of all arguments to the contrary, is that under-consumption is more a factor as it pertains to our meat industry than over-production. Would not some well-planned steps in this direction be an opportunity worth grasping?

You veterinarians present, is there any opportunity for you? Yes sir—and I'll pledge my support to you in helping float a campaign in this

State to fight the internal parasites infesting the horse stock of the State and exacting an annual toll of our farmers and horse breeders, I firmly believe, greater than all other general livestock diseases or infections put together. Yet we sleep. This is a horseman's opportunity too.

Dr. Hall, so I noticed in your last year's annual report, called this to your attention. Still you sleep—an opportunity, and in this, our Central Western States are way ahead of you already. Let's be serious minded on this factor which we must campaign against in an organized manner, by areas of at least county proportions, until we have the State cleaned up.

I feel that as a result of wheat acreage reduction and corn acreage reduction, there is an opportunity worth capitalizing on. That is, better and more extensive and perhaps intensive use of our pastures. Compared to our old country folk, we are a bunch of pikers in this respect. I don't believe we have, in this country, begun to appreciate the importance of good pastures, both permanent and temporary. Nor do I feel we in general have regarded systematic thought and care of pastures as a vital and economical factor in our livestock problems.

Let's not kid ourselves, there will be real work and lots of it ahead, some unpleasant to be sure. But try a little of old Sandy's psychology and get around a difficult situation as cleverly as we can. Old Sandy was a very thrifty Scotchman; in fact, he was so considered by even his Scotch neighbors. He was a sheep herder out in the great Northwest. He would spend a portion of each Sunday cooking up a batch of oats, which would be his sole ration for the entire week. Toward the end of the week, his oats were not eaten with much relish. On this particular Saturday night Sandy came in, sat down to his evening meal of rather stale, uninviting oats, the last portion of his weekly batch. He didn't feel he could possibly eat them. He couldn't seem to steel himself to the task, so revolting did the oats appear. He tried to attack them, but no, he just couldn't. So up he got, reached up and took a flat bottle off the clock shelf and a glass, removed the cork and poured himself out a nice drink and said to himself:

"Now, Sandy, be a good boy and eat up your oats and ye shall have a nice drink o'licker for your troubles."

He fell to, licked up the oats slick and clean, got up, removed the cork from the bottle, poured the drink back into the flask and replaced the cork, put the bottle back on the clock shelf saying, "That's the time I fooled you, me boy!"

In closing, I want to assure you of my desire to work with the livestock men in any capacity that you feel I can be of service to you; I want to fit into the work as did my predecessor, Ken Clark, and become a definite instrument to promote better livestock.

PRESIDENT JONES: Stockmen often are confronted with problems in animal health that are of much economic importance. During recent years we stockmen have had more and more to do with veterinarians in one capacity or another. There can be no doubt but that veterinarians and stockmen should understand each other in a thorough way. We believe

that it is worth while for us to give some serious thought to the important and helpful work that veterinarians have done and are doing. We are fortunate in having with us tonight the President of the Maryland Veterinary Medical Association. I am happy to introduce Dr. Walter E. Campbell of Harford County, who will discuss the timely topic, "The Veterinarian and the Stockmen."

THE VETERINARIAN AND THE STOCKMAN

DR. WALTER E. CAMPBELL

President, Maryland Veterinary Medical Association
Bel Air, Maryland

Mr. Chairman, Ladies and Gentlemen: Your secretary invited me to this most excellent dinner with the provision that I talk afterward. I wish it understood before I start that I am in no sense an after-dinner speaker nor, in fact, a speaker of any kind, but Mr. Carmichael was kind enough to suggest a subject on which I should be able to talk if I can talk at all, "The Relation of the Veterinarian to the Livestock Industry." For nearly twenty years I have been a member of the veterinary profession and, with the exception of a short period in the army during the war, the duties of a country practitioner have been my lot. So I should know something of the trials and vicissitudes of the stockmen in their battle for the health of their charges.

There are all kinds of relatives from mother and father down to the proverbial thirty-second cousin, but the only conceivable relationship of your industry to our profession is that of parent and child. It begins at our very conception, in the schools where we are taught to be veterinarians. Of the ten existing veterinary schools in this country today, nine of them were developed from chairs of animal hygiene in agricultural colleges, and are still connected with them, so we are certainly of close blood kin. The child has grown and, even the most pessimistic will have to admit, has become very useful to its parent, both about the farm and in the house. On the farm we conserve the welfare and health of the livestock, and in the home we promote the public health by guaranteeing the wholesomeness of the animal products that are consumed, and so increase their consumption.

In discussing our profession it might be well to start at the beginning—the making of a veterinarian. One of the questions I am frequently asked is—how long do you have to go to school to become a veterinarian? So briefly I will say that besides a standard high school education, it takes four years in half of our veterinary schools, and, in the other five, a year of college work is required, making it a five-year course, and it is very probable that before long all schools will be five years or more.

After the term of fundamental education, the student can choose for himself his future courses of which there are several. The majority go

into general practice, but besides this group there are laboratory workers, meat and milk inspectors, State and Federal Government field men, veterinary executives, army veterinary service workers, educators, small animal specialists, and others. All of this group, with the possible exception of the small animal specialists, in the large cities, have their fingers in the livestock pie. They constitute a battlefield between disease and health of your animals, and between profit and loss to your pocketbooks.

The first line of defense is the practitioner. When you get into trouble, he is the man you call to for help—the fellow who gets up out of bed at all times of night to travel in all kinds of weather at your request. He is expected to diagnose and treat a large variety of diseases and ailments in many different species of animals. This he does with a fair degree of success when you consider that most of his patients would be hospital cases in the human family.

In the treatment of the sick, the veterinarian is handicapped in several ways. His greatest shortcoming probably is in diagnosis, not because of lack of ability, but because of the cost. We cannot afford to make the numerous microscopic, X-ray, blood, and other examinations that are made by the medical profession to preserve human life. Our patients would not, as a rule, be worth the diagnosis, let alone the treatment.

And then again, we have to do more than just save the life of patients; they must be made serviceable and profitable to the owner. Leaving a chronic invalid on the hands of the client is often worse than leaving a dead patient. In these times particularly, we have to base our treatment of the ill on a strict financial consideration of whether it will pay the owner or not, and the veterinarian should be able and willing to advise on what policy to follow before the price of a well animal is spent on a hopeless case.

But the veterinarian has, in my estimation, a much more important service to perform, and that is not taken advantage of by the stockmen to anywhere near the degree that it should be, that is, the prevention of disease and even of accidents.

I believe we are further advanced in preventive medicine than is the human medical profession, and certainly we are ahead of the dentists. Look back over the diseases that at one time ran through our livestock like a devastating fire, and which are now extinct or under control. When we think of the losses that would have been caused by Texas fever, contagious pleuro-pneumonia, glanders, sheep scab, hemorrhagic septicemia, anthrax, influenza, tuberculosis, hog cholera, and many other diseases, if the science of preventive medicine had not been applied, it makes the national debt "look like two cents."

The practitioner should be able to give you advice on the prevention of disease, and on sanitary requirements necessary for its control, and you stockmen should take advantage of this knowledge. It would pay you a thousand-fold compared to the losses and treatment required after the disease has gained a foothold. There are very few diseases now known

in this country that cannot be prevented, and even quickly controlled if found in time.

When a dangerous disease does appear, or one of the long-standing ones becomes uncontrollable, it then ceases to be a private affair, and the whole community or country is concerned. To handle these conditions the Federal and State governments have set up veterinary machinery, that, if allowed to function unrestrained, can quickly and thoroughly handle all acute conditions, as shown by the outbreaks of foot-and-mouth disease we have had in this country, and, given the time and money, can rid us of long standing and widely distributed diseases, as demonstrated in Texas fever and tuberculosis.

Other diseases are going to appear that will tax our profession to the limit to prevent them from despoiling the already depleted bank rolls of the stockmen. We have no reason to believe that new and dangerous diseases will not appear, and certainly no one claims we know all about the control or eradication of the ones we do have. But the worst part of all is that we are unable to use the knowledge and ability we do have in a great many cases. The livestock industry is being penalized by the existence of many diseases that could be eradicated if public opinion could be sufficiently aroused to provide funds, and if political shortsightedness could be overcome.

We can take hog cholera for instance. With our present knowledge, and almost the present personnel, it could soon be entirely eliminated and at much less cost than the present campaign against tuberculosis. Sheep scab is another disease that could be easily and simply handled, and there are others. The only reason such diseases exist today, to the detriment of the stockmen, is the lack of public interest. Believe me, if the city dwellers should suddenly become susceptible to hog cholera and start to die off from eating the meat of infected animals, as we have seen hogs dying from the disease on the farm, or if their wool clothing carried to them the scab mite, and they started to itch like a poor infected sheep, we should see how soon infections would disappear from our farm animals.

I believe the next big war the stockmen and veterinarians will have to fight will be against parasites, and I can assure you it will be a long and hard battle. The enemy has a good lead on us, so the sooner we get started the better. We know that parasites, both internal and external, are taking an enormous toll from the livestock industry. This is especially true of hogs, sheep, horses, and poultry. Parasites are tricky rascals, and sort of sneak up on you when you are not looking, and once they find a good lodging they are likely to stay a long time. Until recent years most of the treatment for parasites was a hit-or-miss affair, mostly miss, but at present we have very effective weapons against the most dangerous forms, and knowledge enough of their habits to prevent a great deal of infection.

With our present means of quick transportation over great distances, and the resulting increase in the exchange of animals from one community

to another, the danger of spreading disease and parasites is proportionately greater. But, with proper cooperation, the right kind of stockmen and the right kind of veterinarian, I believe we can conquer any disease if given the proper backing. Our weak links are our weak brethren, the kind that do not belong to our associations, and narrow politics. Politics and the control of disease do not get along, as has been proved time and time again. You stockmen can do us, and at the same time yourselves, a great favor by helping to keep politics out of the battle against disease.

Outside and often dangerous interference can be controlled only by the numerical strength of those on the inside. Your Association is probably not overly large; ours is small and always will be, because there are not a whole lot of veterinarians in the State. Most other associations connected with agriculture are in the same fix, but it is very probable that, if in times of stress we lend each other a helping hand, the combined forces might bear considerable weight. It is only common sense that any groups that are as dependent upon each other as the livestock industry and the veterinary profession should have a most intimate and friendly relationship. I know of no better place to nurture such a friendship and understanding than through our respective associations.

PRESIDENT JONES: Recently much has been said about some definite planning in agricultural production. As stockmen of Maryland, we are vitally interested in what the Government is doing and expects to do in the future. Tonight we are favored by the presence of a gentlemen who has been with us on former occasions, and who is now associated with the Agricultural Adjustment Administration. It is a pleasure to present Mr. DeWitt C. Wing of Washington, D. C., who will now address us on the interesting subject "Planning on Facts and Faith."

TOWARD A PLANNED AGRICULTURE

DEWITT C. WING

Agricultural Adjustment Administration
Washington, D. C.

I

Mr. Chairman, Ladies and Gentlemen: Every farmer has in mind some kind of long-time plan or goal toward which he works. He may change it sometimes by detouring to the right or left, but he is most of the time on the main road of his plan. Every farmer also proceeds under a yearly plan, through the winter, spring, summer, and fall, making changes that may be required by weather or other conditions or accidents. Most farmers are forced by the nature of their occupation to make more changes every year than any other section of our population.

A nation's agriculture, undirected by a national plan, is like a rudderless ship at sea. Farming makes it necessary for us as farmers to plan. Our plans are not like those drawn by architects, but they are workable.

When we began building our sheep shed three years ago we had a rough pencil plan on the back of an old envelope by which to guide us. We knew how long, wide, and high the structure would be. We knew within a keg or so how many nails would be needed, how many square feet of roofing would be required. When we got the frame up, a storm blew down a third of it. The accident changed the plan to some extent, but we completed the job, and the shed serves its purpose.

The power to plan is possessed by all the higher animals. Beavers are remarkable planners and builders. Many of us as farmers have worked like beavers, but in the last few years we don't seem to have been much better off than those animals. As individuals, farmers have always done much planning. They have also planned as organized, competitive groups. They have never, until last year, had a fair chance to plan on a national scale for the benefit of themselves as a whole. In the absence of a national plan, they have been competing disastrously with one another as individuals and as organized groups. We have been a long time coming to the conclusion that the kind of cooperation which intensifies and sectionalizes competition can not improve the economic position of farmers.

II

In the New World that Columbus discovered, explorers like Daniel Boone followed creeks and rivers, as well as trails made by animals and Indians. Wagon roads and railroads later followed these natural lines, curves, and levels, because they offered the least resistance to the builders. Settlements that were planted beside streams and along trails grew into villages, with tanneries, gristmills, and general stores. Many an early settlement is now a great city, being rebuilt according to a plan.

America has grown like a primeval forest and not at all like a cultivated orchard. Savage elements are active in our populations and industries. These elements have identified themselves in various forms of avaricious lawlessness, like racketeering in business and business in racketeering, the evasion of income tax laws, graft in municipal governments, scandalous laxities in banking. Rascalities great and small, crude and cunning, in an age of money madness have weakened our moral fiber. To an incalculable extent they have retarded national recovery.

Our civilization is a tangle of interlocking and conflicting interests. Habits and customs are tied into it. We are rooted in a recent past that glorified individualism armed with Winchesters or enjoying special privileges. We have long extolled and envied success in terms of money or property. Viewed as a creation, our civilization exhibits neither a social plan nor a social purpose. Instead, it reveals evidence that it has been planned and engineered in the interest of industrial Caesars. Some of these architects of their own private fortunes are beginning to realize that a man-made civilization must serve the masses of men who made it possible. That is the essence of what the masses of men are saying to the small but powerful key groups by which farmers and the masses of

city people have been exploited until their buying power a year ago was nearing exhaustion.

III

In the fall of 1932 the prices of farm commodities and the condition of agriculture constituted a desperate situation. Things had been drifting from bad to worse. Fear and unrest stalked the country. All the capital employed in agriculture had declined in value from \$79,000,000,000 in 1919 to less than half as much late in 1932. Taxes and mortgage interest together took almost 25 per cent of the gross farm income. Farm commodities had only half their pre-war unit-purchasing power. Bank failures had been widespread and on a record-breaking scale, and more were to come.

In the ten years after 1914 the value of farm property in this country fell off by twenty billion dollars; almost a half-million full owners lost their farms; an increase of almost a quarter of a million took place in farm tenancy, and our gross farm income declined from about sixteen billion to eleven billion dollars. From 1929 to 1932—to make bad matters worse—farm values suffered a further decline of 33 per cent, while the gross income from farms dropped to \$5,143,000,000 in 1932. In 1930 the farm mortgage debt was \$9,241,000,000, as against \$3,320,000,000 in 1910.

On the basis of the average level of prices for the 1910-1914 period as 100, the prices received by farmers stood at the index number of 205 in 1920; 147 in 1925; 139 in 1928; 117 in 1930; and 51 in January, 1933. On the other hand, the downward trend of the prices of goods that farmers had to buy was from 206 in 1920 to only 105 in 1932.

Although from 1929 to 1932 farm taxes declined 22 per cent, the average value of the farm real estate against which the taxes were levied fell about 37 per cent. Consequently, taxes in relation to value rose to 24 per cent. Our net farm income—cash and non-cash—fell about 60 per cent from 1929 to 1932, so that taxes, in relation to that income and to the decline in farm real estate value, rose to nearly 100 per cent.

At the election in November the agricultural States, along with many others in which millions of industrial workers were idle, registered an overwhelming demand for a change.

When the new Congress got down to business last March it devoted itself chiefly to relief and emergency legislation, foreshadowed by the President's speeches in the campaign. No incoming administration in our history inherited so complete, complicated, colossal, and chronic a mess as that with which the President and the Congress had to deal, under the electorate's mandate for prompt action. The chaotic situation that confronted them was the climax of everything that had gone wrong in a dozen fateful years.

Recovery laws, concerned with the basic industries, were passed. It was and is the primary object of these laws and of their administrators to make and maintain an attack on the depression at its roots and on its entire front. In the Agricultural Adjustment Act, Congress gave us

a law which transmits the centralizing power of the Government to agriculture in the public interest. This act is the outcome of a long and laborious study of facts by men in and out of Congress.

IV

Down to about 1910 our production of crops and livestock was kept well in balance with a fairly stable demand. All farm products, therefore, had on the average a fair exchange value for things that farmers bought. Farmers hadn't much money, but few of them feared the loss of their farms and homes. The kind of farming that they did was itself a check on individual overproduction. Enough food and feed was grown for home use, with a small surplus for sale or exchange. Cultivated crops, pastures, meadows, and woodlots were balanced by cattle, hogs, sheep, horses, mules, and poultry. Each farm was largely self-contained and self-sufficient. Farmers in a neighborhood cooperated with one another in various ways.

All this was before new forces had changed mixed farming into a highly commercialized and specialized business in the best farming localities of the country.

Some of the factors that revolutionized our agriculture are: mechanical inventions; the homesteading of vast climate-cursed areas in which railroad companies needed freight customers; the development of irrigation; the rising power of agricultural education as a means of increasing efficiency in production; the expansion of food-growing in semi-tropical zones; the enormous consumption of sea food in populous cities on or near the Atlantic Coast; huge grain elevators; big storage warehouses; paved roads; overflowing city populations; large and complicated food distribution costs; high freight rates; the elimination by gasoline of more than ten million horses and mules as feed consumers and power producers on farms and in cities and towns; heavy taxes on farms; the rise of tenancy; high farm-labor costs; and, for a brief period, the highest living standards on most farms that agriculture has ever known.

Forty years ago 15 to 20 farmers in a neighborhood knew one another's acreages, livestock numbers, crop yields, debt situation, hog calls, and rooster crows. What they knew about one another's business was useful to them in planning their own farming. Long-established Government agencies have accumulated and classified facts which picture the agricultural and industrial world of today. This wealth of information was drawn upon in framing and building the Agricultural Adjustment Act which is being administered by men who know the facts.

The purpose of the Act is "to relieve the existing national economic emergency by increasing agricultural purchasing power." Phrasing it differently, Secretary Wallace says that the fundamental purpose of the Act is to make it possible for farm products to have fair exchange for city products. "Basic commodities" named in the Act are wheat, cotton, field corn, hogs, rice, tobacco, and milk and its products. Producers of these commodities are offered the use of Government power in making

the necessary adjustment of production to domestic and foreign market conditions that have changed enormously since the World War. Under the wheat, cotton, corn, hog, and tobacco programs, we are moving definitely toward a planned, balanced agriculture.

Amendments to the law, which would include beef cattle and possibly some other agricultural products as "basic commodities," may be made by the present Congress. As farm commodity prices are closely tied up with one another in competitive ways, it seems likely that we must eventually include all important farm products in national production control plans under simultaneous operation. Active competition among foods has been greatly increased in recent years by consumer economies, by advertising, by the published facts of human nutrition, by changed food habits in cities, and by the fact that farmers themselves now buy a large proportion of their food.

Farmers are entitled to fair exchange value for their products. That is what the new deal for agriculture promises. Fair exchange value is defined as the value realized by farmers in the five-year pre-war period 1909 to 1914. Farmers can get it by doing their part together under the Adjustment Act. Their first step is the reduction of surplus crop acreages; the next step is production control.

Agriculture is our only great industry in which there has been no development of centralized production-control policies. Under the production-adjustment programs, farmers can do what the big industries do; they can control production. That is the key principle employed by these industries in which action is concentrated in a few hands. So effective is their power that they virtually control the prices of industrial products that farmers buy.

In the past our six million widely-scattered farmers were not in a position nationally to cooperate with one another in controlling the production of a basic commodity.

V

Farm prices for farm products have been unprofitable to producers for more than two-thirds of the time since 1914. During the same period prices for things that farmers buy declined but little, on the average, from those that they had paid for the same things when times were called good. While the net income of farmers steadily decreased, particularly since 1929, their fixed charges, like taxes, interest, freight, and the cost of things that they buy, underwent but slight downward changes.

Under these adverse conditions farmers felt compelled to produce more and more at increasing losses in order to obtain cash. In their desperate efforts to get cash, they lost millions of dollars in terms of labor, soil fertility, and wear and tear on equipment. Without intending to do so, they competed fiercely with one another. Uncontrolled production and unbridled competition went hand in hand. Consequently, surpluses of basic farm commodities piled up, steadily forcing prices lower. During the war years we increased our acreage of 13 important crops by about

thirty-one million acres. That acreage has since been increased and maintained at a still higher level. Our corn acreage climbed from about one hundred and three million acres in 1914 to more than sixteen million in 1917, and it was one hundred and eight million acres in 1932. It used to take about fifteen million acres of good land to produce feed for the ten million horses and mules that gasoline supplanted. Those acres are still under the plow. Between 1929 and 1933 farmers, under expense and debt pressures, produced crops on about fifty million acres more than they had under cultivation in 1914. We thus had excess production and unprofitable prices, while at the same time our agricultural exports declined to record low totals.

Farmers were drawn by uncontrolled forces into a vicious circle, where their every move was forced. What they did was like jumping out of the frying pan into the fire and back again. Their necessity for cash kept them in an increasingly hot place. Despite convincing evidence that they were overproducing, and thereby further intensifying unprofitable prices for their products, they did not decrease their production of processed products but 15 per cent between February, 1929, and February, 1933. During that period, however, the decline in processed non-agricultural products was nearly 65 per cent.

VI

The big industries control production by laying off workers. That is identical in principle with reducing the acreage of surplus crops. By laying off workers they virtually control the prices of their products. If they should overproduce, in spite of a reduced demand and a lowered buying power among consumers, they would have to take what they could get for their products in glutted markets. They would be doing what farmers do who overproduce corn, hogs, wheat, cotton, milk, beef, sugar, tobacco, and rice in spite of unprofitable prices.

The big industries are in a position to adjust their output to a demand that will take their products at their own prices. Farmers can do the same thing under the Adjustment Act. This is like fighting the Devil with fire. It is an enforced, temporary strategy called for by the existing topsy-turvy economic situation which is notoriously unfair to agriculture. For the condition of agriculture is such that farmers are no longer able to pay for the privilege of working for nothing.

Under the grant of Government power in the Adjustment Act, farmers have a chance to obtain a larger measure of economic and social justice than they have experienced in this country in more than fifty years. Such a gain on their part would evolve a controlled, balanced national agriculture, planned and adjusted to actual demand. This seems to me to be implicit in the extension and application of the Act, and it is a needed step toward making the United States a better country for all its citizens than it has been in the past.

A prime and removable cause of our agricultural losses and miseries is too much land growing crops of which we have surpluses that can't be

exported, or sold in the domestic market except at extremely unprofitable prices to producers. In order to reduce these surpluses to normal carry-overs, and to gear production control to domestic and foreign market conditions, the retirement of surplus crop acreage is an obvious necessity. Foreign trade will continue to be vitally important to our agriculture, and we are not overlooking opportunities of obtaining and cultivating it, but the prospects for early and considerable increases in our exports are not encouraging. In the meantime, every gain in employment, every increase in wages, every improvement in business, every flow of capital into construction and reconstruction will strengthen the domestic market for farm products.

VII

So far, production-adjustment programs under the new law are in effect with respect to wheat, cotton, corn, hogs, tobacco, and rice. A dairy program is taking form. So also is one for beef cattle, as well as one for sugar. Some producers of sheep, poultry, and potatoes favor production-control programs for these commodities.

Chester C. Davis heads the Agricultural Adjustment Administration, in which the 12 sections deal with different commodities, production programs, marketing agreements, replacement crops and codes. Processing taxes are in effect on wheat, cotton, corn, hogs, and tobacco. Adjustment payments to cooperating producers and the expenses of carrying on the programs are paid out of revenues derived to producers under the adjustment programs this year will total more than \$450,000,000. Maryland farmers will share in these payments according to the extent to which they cooperate in reducing the production of commodities involved in the programs.

Under the corn-hog program, which is now in the sign-up stage, as much as \$350,000,000 is available to producers. Maryland is in a position to benefit substantially by participating in this program. Any Maryland farmer who is eligible to sign the contract could hardly figure himself out of it if he would take the time to do a little figuring. The benefit payments, Mr. Davis says, are "a small part of the honest income which should have been going to agriculture since 1920." They are, he further points out, more than an installment method of discharging an overdue debt to farmers, because they provide the machinery, hitherto lacking, whereby farmers who work together may work out their own salvation. These very liberal payments, however, are apt to be over-emphasized, while at the same time sight may be lost of the central purpose of the Adjustment Act. Controlled production, insuring fair exchange value for basic farm commodities, is the goal in view.

The seed of a planned agricultural industry has been planted by the application of the Act.

It is possible that some Eastern farmers may be more seriously interested in cheap feed from the Mid-West than in farm relief plans that may originate there. In that case, they may have forgotten that when

feed is high-priced it is more profitable most of the time than cheap feed to the feeder. In the long run, there are no bargains. For many years Mid-West farmers have sold immense quantities of grain at a loss to dealers and farmers in our Eastern States, while, at the same time, these Mid-West farmers were buying Eastern-made textiles and other goods at prices which profited Eastern manufacturers.

Modern means of communication have made American farmers neighbors to one another. The depression has aroused their sympathetic interest in one another's troubles. Their faith in united efforts is stronger than it has been in the past.

The heart of the Adjustment Act programs is an old truth of human experience. It is that every man in some definite measure is his brother's keeper. If a farmer thinks, plans, and works alone, as one who needs no help and has none to give, the logic of his behavior is expressed by the old saying, "Everybody for himself and the Devil take the hindmost." History proves that under conditions of life and business governed by this kind of secluded individualism, the Devil takes the hindmost along with the foremost and everybody in between. National cooperation among farmers is as necessary as local co-operation used to be among neighbors in a rural school district.

VIII

In the world as it is we are compelled to move toward changes in our major industries and in their relationships to one another and to the public. Most nations are in the throes of adjusting themselves to the serious economic conditions which the industrial revolution created and the World War intensified. The nationalistic policies which they and we are forced temporarily to pursue will end some day in reciprocal trade agreements. Raw materials that are needed by all civilized nations are unevenly distributed on the globe. International trade in these materials, in some finished goods and in the cultural arts is essential to international good will and sound nationalism as well.

For many years we were a debtor nation. We owed many millions to our creditors abroad. We paid them largely in agricultural exports. Now European countries owe us billions of dollars. We can't collect interest or principal unless we accept exports from them. In their economic distress, their imports from us are limited to comparatively small totals. When we were exporting every year an immense tonnage of grain, pork, lard, wheat, and cotton to Europe, our farmers were prospering at the expense of European farmers, and we were depleting our soil fertility, which is agriculture's capital stock.

IX

Forty to fifty million acres will have been taken out of production this year and next under the adjustment programs now in effect. The use of retired acres during the life of the contracts under which they are rented to the Secretary of Agriculture is limited to soil-improving and

erosion-preventing crops. It would manifestly be unfair to use these acres in any way that would directly or indirectly offset in any degree the intended effect of retiring them from surplus crop production. Administrative rulings in connection with all the production and adjustment contracts indicate the crops which it is permissible to grow on contracted acres, as well as how they may otherwise be handled.

We have at once a land-use planning problem. A Federal program of buying submarginal land and taking it out of production is being developed. Much of the land of this description will be reforested, used for recreational purposes or as wild-life or game preserves. Millions of acres have reverted to a number of States through tax delinquencies. A committee appointed by the President is at work on plans for the utilization of these lands in the public interest.

The Interior Department is in charge of a \$25,000,000 subsistence homestead program originated by an amendment to the National Industrial Recovery Act. It is intended to aid in the redistribution of the overbalance of population in industrial centers. About a third of the census classification of farm families in the United States were subsistence farmers. They were not engaged in commercial agricultural production but combined industrial employment with work in their gardens and on their small farms. Industry is beginning to uproot itself from cities and plant itself where workers can live better, and, at the same time, not be dependent entirely for their living on either industry or agriculture.

Under the direction of M. L. Wilson this new program is establishing more than thirty subsistence homestead projects at an outlay of about \$10,000,000 in many States. Each project consists of a number of homesteads or small farms. The projects differ from one another because they are being developed with special reference to the climate, soils, and industries of the regions in which they are located and to the people who will occupy the homesteads. From 10,000 to 12,000 families will be helped in this way to establish homes where they can enjoy the advantages of community life and rural life together.

In West Virginia a community is being established for three groups of stranded people: miners, lumber workers, and submarginal farmers. The land already purchased will be divided into more than one hundred small farms, with the necessary buildings erected on them, and sold on reasonable terms to citizens whose qualifications are acceptable. Limited by a \$25,000,000 appropriation, it is, of course, impossible for this plan to aid a large number of families. Its chief value, therefore, will be as a demonstration of its possibilities.

A dozen or more extensive projects for the solution of soil-erosion problems in a number of States have been undertaken by Government agencies acting together.

All these activities are part and parcel of a planned social use and conservation of our greatest national resource, which is land. Their extension and development will simplify the problem of making the best use of our best farming lands.

The millions of acres taken out of wheat, cotton, corn, and tobacco production will have a needed rest while their fertility is being increased by soil-improving crops. Some of these acres will inevitably lie idle. There isn't enough good seed of any important permissible crop to sow them, even if all farmers were able to buy it.

In another year the adjustment and related programs sponsored by the Government will have clearly indicated in outline the economic and social possibilities of a planned agricultural industry.

X

In a thoughtless, profligate fashion we have been abusing and mis-using the land ever since we wrested it from the Indians. The red men were unscientific, but intelligent, practical conservationists. They didn't despoil the land. They planted fish with their maize in order to increase the yield of grain and husband soil fertility. The Indians were cooperators with nature in preserving the balance between the flora and fauna of the earth. Under the white man's commercial exploitation of the soil, it has eroded and deteriorated most where grain and cotton have long been grown. Very few farms are as productive as they were 50 years ago. National decay begins in worn, washed, and wasted land.

A social concept of land in the temperate zone is that it is a social trust fund or possession, of which each generation is a temporary custodian. As such it ought to be actively conscious of its responsibility to its successors. A good citizen on a farm is resolved in his heart that he will leave the land to which he has a legal title a little better than he found it. That is wise in his own interest. No other course on his part as a farmer can justify his use of land which must support the unborn generations that are to come.

Land hunger is an abiding fact in human history. The area of land in the only climatic belts in which high civilizations are possible is comparatively small. The industrial revolution in this country withdrew millions of people and billions of dollars worth of soil fertility from the land. In the last four years several million people have returned to the land. Millions more will do likewise—not to make money but to make a living and to achieve on land a security at home which they have never experienced in cities. The nation's land policies, wisely planned, will encourage shifts of population to and from the land. They will be especially concerned with anchoring people where they will have a fair chance to establish permanent homes and live like civilized human beings.

Our cap-sheaf problem is a surplus of people in relation to industrial and most other jobs. Its solution lies in a planned, social use of the land. We are not going to junk modern machinery. We want more efficiency and less toil in every industry, but the fruits of efficiency must be socially distributed.

PRESIDENT JONES: The awarding of prizes to winners in the Maryland 1500-Day 1500-Pound Litter Contest will be next on our program. Dr. T. B.

Symons will summarize the results of this contest and Mr. William ("Buck") Schluderberg, of the William Schluderberg-T. J. Kurdle Company of Baltimore, will hand the prizes to the winners.

1933 MARYLAND LITTER CONTEST RESULTS AND A SUMMARY

DIRECTOR T. B. SYMONS
University of Maryland Extension Service

Mr. Chairman, Ladies and Gentlemen: In the 1933 Litter Contest there were five entries, two of which succeeded in reaching a weight of 1500 pounds in 150 days of age. The relatively small number of entries in the 1933 contest is probably due to the lack of enthusiasm in hog production, occasioned by relatively low prices during recent months.

It would seem to be worth while at this time to make a brief review of the results of this contest as carried on during the last nine years. During a part or all of this time the cooperating agencies have been the University of Maryland Extension Service, the William Schluderberg-T. J. Kurdle Company, the Maryland Stockmen's Association, and the Maryland Swine Growers' Association, which latter organization ceased to exist when the Stockmen's Association was organized.

During the first eight years of this contest, from 1925 to 1932, inclusive, fifty litters reached the desired goal of 1500 pounds at 150 days of age. In these fifty successful litters there were a total of 528 pigs, the accumulated weight of which at 150 days of age amounted to 92,268.5 pounds. This is an average of $174\frac{3}{4}$ pounds per pig. Eleven of the litters weighed 2000 pounds or more at 150 days of age, and only thirteen of the fifty weighed less than 1600 pounds.

Although no litter of less than nine pigs reached the 1500-pound weight until 1933, this year a litter of eight weighed 1550 pounds. It is interesting to note that a number of heavy litters, consisting of ten or twelve pigs each, were sufficiently heavy so that seven of the average pigs would have weighed more than 1500 pounds. Messrs. Iager & Son of Howard County developed three litters to a total weight of 2563.5, 2281.5 and 2796 pounds, respectively. Mr. Ralph T. Wilson of Cecil County developed a litter that weighed 2327.5 pounds. Seven average pigs from any of these litters would have weighed more than 1500 pounds, so that it is not strictly necessary for a very large number of pigs to be raised in order to have it succeed in this contest.

Interesting figures could be recited at length on the fifty-two litters which have reached the desired goal of 150 days, but time does not permit a detailed discussion of them tonight.

The results of the Maryland 150-Day 1500-Pound Litter Contest during the nine years since its beginning show conclusively that Maryland producers may, if they will, produce live weight on hogs rapidly and at reasonable cost. As a matter of fact, many Maryland farmers have been

doing so for years. There is needed now a wider adoption of methods which are efficient and suitable for general use in the State. Production and profits should, under normal conditions, be satisfactory if good stock is used for breeding purposes; if adequate, but not too costly, equipment is used; if efficient methods of sanitation are followed; if abundant, palatable green forage is supplied; if suitable grain and supplement are fed generously; and if proper marketing methods are followed.

The nine years of this contest should leave an indelible impression on the hog production program on many Maryland farms. There is no definite way to measure the ultimate effect of the activities of those who have taken part in the contest during one or more of these nine years. It seems certain, though, that few men who have either participated in the contest or watched the progress of a neighbor's entry can have failed to get a lesson of value that will influence hog production practice in Maryland for years to come.

There should be no misunderstanding of the economic significance of the Maryland Litter Contest. From its inception we have guarded against undertaking to encourage heavy production or even the production of heavy-weight hogs without regard to economy of production and local market prices. It can not be denied that hog prices at present are low, but, whether prices are high or low, rigidly economical production should aid hog producers to secure better returns from their hogs than would otherwise be possible. The man who is an efficient producer can expand or contract his production as conditions demand, and upon him we must depend for much of our meat production in the future, as we have done in the past. Both the Stockmen's Association and the Extension Service, as well as the William Schluderberg-T. J. Kurdle Company have undertaken to promote the production of profitable pigs. We believe that the lessons taught through the litter contest are very much worth while, and that these lessons will prove of lasting benefit.

To get back to the 1933 contest, I am pleased to announce that Mr. Edgar M. Palmer of Perryman, Harford County, has developed a litter of eleven pigs to a weight of 1623 pounds in 150 days, and Mr. Sterling H. Little of Westminster, Carroll County, produced a litter of eight pigs to a weight of 1550 pounds in 150 days. If these gentlemen will come forward they will receive the awards from Mr. Schluderberg in a few moments.

Mr. William ("Buck") Schluderberg, of the William Schluderberg-T. J. Kurdle Company, Baltimore: It gives me pleasure, on behalf of the Schluderberg-Kurdle Company, to congratulate the winners of the 1933 Maryland 150-Day 1500-Pound Litter Contest, and to present to Mr. Edgar M. Palmer of Harford County an order on our company for 1623 pounds of feeding tankage, and to Mr. Sterling H. Little of Carroll County an order for 1162½ pounds of feeding tankage. Again, gentlemen, I congratulate you.

Reports have been submitted by Messrs. Palmer and Little as follows, but were not read at the meeting:

FIRST PRIZE LITTER REPORT

EDGAR M. PALMER
of Harford County.

My Maryland 150-Day 1500-Pound Litter Contest litter was fed as follows on $\frac{1}{8}$ -acre dry lot:

Growing ration, mixture as follows:

300 lbs. ground barley
200 lbs. white middlings
100 lbs. bran
30 lbs. fish meal
30 lbs. oilmeal
6 lbs. charcoal
6 lbs. salt
6 lbs. ground limestone

2688 lbs. used, \$35.88

Fattening rations, mixtures as follows:

400 lbs. corn meal
300 lbs barley
200 lbs. white middlings
200 lbs. bran
50 lbs. fish meal
50 lbs. linseed oilmeal
13 lbs. charcoal
12 lbs. salt
12 lbs. gr. limestone

1800 lbs. barley
1200 lbs. white middlings
800 lbs. cornmeal
800 lbs. bran
245 lbs. fishmeal
245 lbs. linseed oilmeal
50 lbs. charcoal
50 lbs. salt
50 lbs. gr. limestone

2550 lbs. used, \$33.90

5238 lbs. feed used

\$69.78 cost of feed

2.75 grinding feed and handling

\$72.53 total cost

1623 lbs. live weight produced

\$0.05 per lb. assumed value

\$81.15 value

SECOND PRIZE LITTER REPORT

STERLING H. LITTLE
of Carroll County.

The litter of eight pigs I entered in the 1933 Maryland 150-Day 1500-Pound Litter Contest was farrowed by a purebred Hampshire sow and was sired by a purebred Poland-China boar. For five weeks after the pigs were farrowed I fed the sow wet feed. At the end of this time I put the sow and pigs on a self-feeder. The feed used in the self-feeder was made by mixing 100 pounds of a commercial pig meal with 10 bushels of grain. When the pigs were twelve weeks old I removed the sow from the feeding lot, and continued giving the same feed to the pigs. Four weeks before the litter was sold, new corn was fed, and, of course, water was kept in the feeding lot at all times.

Record

750	lbs. pig meal.....@	\$2.40 lb.	\$18.00
29½	bu. wheat@	.85 bu.	25.07
10½	bu. shelled corn@	.70 bu.	7.35
29	bu. barley@	.35 bu.	10.15
2	bbl. new corn.....@	2.00 bbl.	4.00
Total cost.....			<u>\$64.57</u>

Receipts from Litter

Litter weighed 1,550 lbs.....@	\$4.10 per cwt.
Returns	<u>\$63.55</u>
Deficit	\$1.02

PRESIDENT JONES: On account of the address by Secretary Henry A. Wallace scheduled for tonight at the Lord Baltimore Hotel, we will adjourn earlier than had been planned. I am informed that Secretary Fairbank has arranged for seats for this group. The instructions are for us to inform the ushers that we are from the Maryland Stockmen's Association meeting so that they will know where to seat us. This meeting is now adjourned.

Thereupon a large number of those present went to the Lord Baltimore Hotel in time to hear all of the thoughtful address delivered by Hon. Henry A. Wallace, Secretary of Agriculture. Secretary Wallace devoted a considerable part of his address to an interesting talk on problems that are of special importance to stockmen.

REPORT
OF THE
ANNUAL MEETING
OF THE
Maryland Tobacco Growers'
Association
January 11, 1934
Baltimore, Maryland

The annual meeting of the Maryland Tobacco Growers' Association, held in cooperation with the Maryland Farm Bureau Federation, was on Thursday, January 11, 1934, at the Lord Baltimore Hotel.

The chairman of the meeting was Mr. Harold S. Swann, a director of the Association from Charles County. He is also chairman of the Finance Committee of the Association. He gave a brief talk on the accomplishments of the Association and what it hoped to do in its field of operation in the coming year.

The annual report of the President, the Hon. Thomas Parran, was not given, due to the fact that Mr. Parran was prevented from attending the meeting because of sickness.

The guest speaker was Dr. F. B. Bomberger, president of the Bank for Cooperatives for the Federal Land Bank District of Baltimore. He gave a very interesting discourse on his connections with the Maryland Tobacco Growers' Association since its organization, as he helped in the organization. He also explained what the Federal Government was endeavoring to do to help farmers through the Agricultural Adjustment Administration, of which the Bank of Cooperatives is a part. His discourse was both interesting and instructive.

The annual report of the finances of the Association and its operations for the year 1933 was given by Mr. George I. Gardiner, general manager of the Association. He stated that he felt the Association had an outstanding achievement to report to its members, which was that the Association had paid its entire indebtedness to the Farm Credit Administration on money borrowed on the 1931 and 1932 crops, and that the only money that was then owing was a small sum borrowed to advance to its members on the 1933 crop in the barns.

Mr. Gardiner also gave some time to the problem now confronting the

Maryland tobacco producer owing to an accumulation of Maryland tobacco in the hands of manufacturers. He analyzed the situation in such a way as to impress the minds of those present that a crop reduction program would be the only way for the producers of Maryland tobacco to correct the problem confronting them at this time.

After Mr. Gardiner's report the chairman stated that the meeting was open for general discussion, which was taken advantage of to some extent, after which an adjournment was taken.

R E P O R T
OF THE
Home and Community Committee Meeting
MARYLAND FARM BUREAU FEDERATION

January 11, 1934

Baltimore, Maryland

Mrs. Roy WEAGLY, Secretary

The eleventh annual meeting of the Home and Community Committee of the Maryland Farm Bureau Federation was called to order in the Lord Baltimore Hotel at 9.45 A. M. on Thursday, January 11, 1934, by the chairman, Mrs. Harry T. Williams of Kent County.

Meeting opened with the Lord's Prayer.

In order that Miss Lavinia Engle, director, Maryland League of Women Voters, might be able to keep a later engagement, she was then introduced and called upon to give her very convincing and much appreciated talk: "Legislation Present and Future."

The minutes of the last annual meeting were then read by the secretary, Mrs. Roy C. F. Weagly, Washington County.

President E. A. O'Neal of the National Farm Bureau Federation gave a very impressive address. He spoke of the great problems and the part which women should have in the American Farm Bureau Federation. "The place for women to start is at home. In the new day and the new deal women have greater opportunity and greater power than ever before. They have seen the old things fail because the dominant elements were selfishness which utterly destroyed. Now, leaders must get their heads together and build all over again because it was built wrong. We failed because we failed to manage the fundamental things of life. Women have the opportunity and must play the greater part. We need you, your gentle hand, warm heart and true soul. With faith and determination, women have opportunity and responsibility in organization."

After many pleasing and inspiring remarks, President O'Neal made an appeal to the women of Maryland to "Start the ball rolling across America."

Chairman Mrs. Williams said, "It has always been a question as to

what and where woman's place is in the National as well as the State Farm Bureau. My idea is that women should never be separate from the men in Farm Bureau work. President O'Neal appeals to us to take our part, which we have always wanted to do. But the thought started out that tax was not a woman's job, that legislation has not been woman's work, etc. And, if the business has been run through without asking the women to serve on committees, how can we help it? The women are willing and ready to help and should be trained to do whatever is woman's business. When the tentative program of this convention came out, the woman's meeting was not even mentioned."

Chairman then called for counties represented; response from Howard, Wicomico, Baltimore, Talbot, Queen Anne, Kent, Cecil and Frederick.

Chairman said, "Women do not realize that they are needed."

Mrs. Harry Davis, Monrovia, Md., gave splendid ideas on "Helping the Farm Income Through the Sale of Home-Made Products," including a report of the Frederick County Farm Women's Market.

Mrs. Williams then introduced Mrs. J. E. Shillinger, Somerset, who talked on, "Meeting the Public Demand With Standard Products."

Vocal trio, "Calm as the Night," and "Rockin' Time," by Homemakers of Washington County—Mrs. J. Elmer Wilson, Mrs. John F. Bussard and Mrs. D. A. Kirk with Mrs. Fred Ludwig assisting at the piano.

It was then decided that each county take up the Elimination Contest for the Woman's Speaking Contest in the National Farm Bureau Convention.

Mrs. John Darby, Boyds, Md., was then called upon to give a talk on "Turkeys Direct to the Consumer."

A reading, "The Patchwork Window," was very beautifully given by Mrs. J. Elmer Wilson, Smithsburg, Washington County.

Officers were then re-elected to serve another year.

County representatives recommend that no officer can succeed herself more than three consecutive years.

Adjournment followed.

Respectfully submitted,

MRS. ROY C. F. WEAGLY, *Secretary*,
R. No. 1, Hagerstown,
Washington County, Md.

Following are the addresses given by Mrs. J. E. Shillinger, Mrs. John Darby, and the report of the Frederick County Farm Bureau Women's Market by Mrs. Harry Davis.

MEETING THE PUBLIC WITH STANDARD PRODUCTS**MRS. J. E. SHILLINGER**

Former Manager of the Women's Cooperative Farm Market
6811 Wisconsin Avenue, Bethesda, Md.

There is scarcely a farm home anywhere in which there is not some one or more outstanding products of a quality that is above the average. There is such an extensive variety of foods and other articles produced on the typical Maryland farm that it is not difficult to find at least one product of especial excellence grown in the fields, the orchards, the gardens or produced in the dairy or the kitchen.

Products of superior quality are more profitable if properly presented and it is on the basis of good produce properly offered for sale that reputations may be established. The type of farm and the experience of the family determine the nature of the products and with the proper system of presenting them to the market such produce can be supplied at a greater profit.

In selecting the commodities to be marketed for cash, two considerations must be taken into account: First, is there a reasonable demand for it or can a demand be created among the possible range of consumers? Second, are the products available on the farm in question of a quality that they will sell readily if they are properly graded?

In the first of these the producer acquires a knowledge gained through experience of what the consumers in that particular selling range desire. Most of our knowledge on what the consumers demand has been learned by the process of trial and error and one should not hesitate to attempt placing new products on the market, if they are good. It has been shown that in many cases products previously unheard of among the group of customers have become very popular when they have been proven to be of good quality and well presented.

In a certain limited sense it may be stated that the demand for a product is what the seller makes it and almost any product may be sold if it is offered in an attractive and enticing manner. The problem of selling farm produce directly by farm women without the process of passing it through the hands of one or more middle men is very different from that of the professional merchant who receives wholesale produce already graded and packed in standard containers. In my experience gained largely as manager of a farm women's market of about eighty-five sellers it is definitely evident that profits are greatly increased and customers are more regularly pleased through the sale of standardized products.

City consumers do not want to buy foods or any other articles of mixed quality in irregular sized containers. For this they can not be criticized. If the farm dweller would consider that when he buys dry goods, kitchenware or farm equipment, he expects and demands uniform quality in the same type of article. Think of the confusion that would rise if various

stores sold shoes or gloves with different size ratings, or if various manufacturers of thread placed on the spools their individual size designations.

It is true that many commercial fruit and vegetable packers do use a wide range of sizes. They do, however, place on the label the number of ounces contained. In this connection, however, it should be noted that all of the fruits or vegetables, so packed under any special brand or name are of selected size and quality. Thus, the situation resolves itself into the fact that the producer and consumer may be justified in dealing in various sized containers if their contents in volume or weight is clearly stated, but the variations should not go beyond that feature. In each container uniformly graded articles must appear.

Naturally one can govern only within a limited range the size of fruits, vegetables or eggs produced. It is not always the largest specimens that are the most in demand. Nevertheless, markets throughout the world do call for a classification of the articles with regard to size and quality.

The quality of the article including proper preservation must be taken into account in each grading. The seller may think her product as good as that of any other seller, but it is the consumer who is the final judge to be pleased. In determining the quality of foods, a trained sense of taste is necessary. In places where great quantities of certain products are handled and sold, specially trained persons are called upon to pass judgment, in order that uniform quality may be preserved. Imported teas are tested by professional tea tasters. In the large meat packing plants Federal inspectors pass on the freshness or rancidity of meat food products for interstate shipment, and in our local creameries milk and other dairy products are tested by tasting and smelling for objectionable flavors or odors. Not everyone is qualified to grade foods. A knowledge of what is good and a discriminating sense of taste and smell are very necessary. The farmer must depend on his own ability very largely in setting his standards of excellence. However amateurish he may be at first, it is possible to improve the keenness on one's sense in most cases. County Extension Workers may be of aid in helping to establish grades and furnish constructive criticism in improving the product. City buyers are very critical of foods and they call for products of delicate consistency rather than those of a highly nutritious value.

When it comes to preservation of foods, the American people are rapidly learning the art of protecting foods from deterioration, ferment and decay. Much has been learned in recent years on the proper handling of dairy products from the farm inspectors.

Products prepared in the kitchen can and should be made uniform in size, texture and color. In my experience while connected with the marketing of foods and attempting to satisfy the consumers demands in two large cities, it has repeatedly been demonstrated that customers for farm, home and dairy products can gradually be won by offering uniform products in uniform size containers of uniform shape and appearance. Conversely, trade can very speedily be lost and good customers quickly

dissatisfied through furnishing irregularly graded and poorly packed produce.

In analyzing the mental response of the buyers to ungraded articles it is observed that the idea prevails that they are purchasing articles of unknown values. And, indeed, that is just what occurs. In mixed lots of any one type of product it is difficult to estimate the proportion of large and small specimens in the lot. With fruits and vegetables a uniform degree of ripeness is equally important with the size, color and style of container.

During the last few years various public organizations recognizing the urgent need of standardization of commodities have endeavored through legislation to establish official grades which will be uniform throughout the country. If farmers could realize that this is for their protection, as well as for the protection of the consumer, such regulations would soon be established.

For those products that are sold in immense quantities by the wholesale trade, such as certain fruits and grains, very definite grades have been established for many years past. Butter, which is one of the foods which enters into both commercial market trade in a large way as well as furnishing a large part of many farm retail sales, is a good example of the value of standardization. To many consumers the better brands of creamery butter as designated by the fixed grades of this commodity are preferred. These purchasers who are acquainted with a definite brand having the consistency and flavor suitable to their taste, regularly demand that brand and they know they will always get the flavor and quality to which they are accustomed.

Too often I have heard complaints directed towards the produce offered by certain sellers on the ground that their last purchase was not as satisfactory as those previously made. This is usually due to the failure of the seller to make a study of systematic production and packing. Uniformly filled baskets, hampers, crates or cans are just as important as the uniformity of the product itself or the style of the container. Butter and sausage and such products as are supplied in molded forms should be so packed as to actually contain the amount for which they are represented.

In the end it should be emphasized that standardization and grading of products, as well as their packing and selling, encourage honesty in the farm produce business. Because of this, unusual designs of containers should be avoided since they expose the user to suspicion.

The advantages of offering standardized products in standardized containers are:

1. It is easier to establish fair price ratings.
2. It wins the good will of customers.
3. It helps to establish your reputation for having attractive and dependable products.
4. It prevents suspicion of dishonesty or unfair practices.

5. It shows that you know your business and hence wins the confidence of the city purchaser.

Confidence is the backbone of progressive business and in these times of meagre farm incomes there is every reason why the consumer should be encouraged to deal directly with the producer.

REPORT OF FARM BUREAU WOMEN'S MARKET

MRS. HARRY L. DAVIS
Monrovia, Md.

The outstanding piece of work to be reported by the Home and Community Department of the Frederick County Farm Bureau is the development of the Farm Bureau Women's Market which had been contemplated for over a year by members of the department.

A meeting was held in January to determine the interest in such a project which was attended by 24 women. Suggestions and explanations of details of markets were presented by the State Home Demonstration Agent and the Montgomery County Home Demonstration Agent. The group decided to start a market and an organization committee was appointed to draw up the by-laws and to work out the plans for the organization. This committee prepared a simple form of by-laws and a marketing agreement, based upon suggestions from this State and other States. The material as prepared was presented to the meeting on organization and was accepted. Officers were elected as follows:

President, Mrs. Harry L. Davis; vice-president, Mrs. M. D. Coblentz; secretary, Mrs. Ira L. Davis; treasurer, Mrs. Thomas S. Anderson.

These officers with Mrs. Edgar L. Thomas comprise the General Managing and Price Fixing Committees.

Preliminary meetings in preparation for the market consisted of two standardization meetings, one conducted by the State Nutrition Specialist on Home Baked Products, and one with the Dairy and Poultry Specialists at which standards for these products were discussed.

Twenty-one sellers opened the market on February 25 with an organization known as the Farm Bureau Women's Market and in spite of the fact that the opening occurred on the day that the State bank holiday was declared, it was deemed a most successful venture. The local newspaper gave considerable publicity to the market through articles, and further advertising consisted of letters to all of the city women's organizations, Men's Service Clubs, the city officials, the Chamber of Commerce and the Business Men's Committee working with the Farm Bureau. Advertisements were run in the Frederick paper the entire week prior to the opening of the market and dodgers were taken to every house in Frederick.

The market opened with remarks from the Frederick Mayor who officially opened it by ringing the old market bell which revived the custom used

in the old Frederick market, discontinued some twelve or fifteen years ago. The ringing of the bell announces the opening of the market for sale of products on each market day.

The national bank holiday which occurred in the month of March somewhat affected the sales returns, but nevertheless the market made progress. Standards improved and a special meeting of the market group was held to determine policies. A meeting is now held once every two months to discuss problems which arise.

REPORT OF MARKET—FEBRUARY 25 TO DECEMBER 1

Number of sellers on opening day.....	21
Number of sellers who have dropped out.....	2
Number of new sellers.....	1
Number on waiting list.....	7
Average sales per day during first month.....	\$225.00
Average sales per day today.....	\$325.00

REPORT BY MONTHS

Month	Number Days	Sales
February	1	\$ 185.83
March	4	933.39
April	5	1,496.69
May	4	1,174.27
June	4	1,241.15
July	5	1,526.06
August	4	1,147.32
September	5	1,485.53
October	4	1,366.84
November	5	1,645.21
		\$12,202.29

Special gratitude is given to the city officials who have so kindly cooperated in the project by giving the market space for the use of the organization in the project, and appreciation is acknowledged for the patronage and advertisement that Frederick people have given throughout the year.

TURKEYS DIRECT TO THE CONSUMER

MRS. JOHN DARBY
Boys, Md.

I have been enjoying these wonderful speeches, just feasting on the mental side of mankind, and I wonder how I can collect my thoughts and talk about feasting for the physical side of man.

My subject is "Turkeys Direct to the Consumer." I must turn backward a step or two for there must be preparation a long time before the turkey is ready for the consumer. From the time the little fuzzy bird comes from the shell until it is ready for the table we should have the

consumer in mind. We know he wants a bird that is tender and palatable. Then, this bird must be given much attention and fed many vitamins. In fact, it should have a cafeteria before it all the time with plenty of sunshine and clean water.

I believe in milk. The first drop of anything I give mine is milk and when they are two or three weeks old I start with semi-solid buttermilk and they get that all the time. That makes the meat tender and gives it a different flavor. I have had people say to me, "Why don't you stop feeding buttermilk so the expenses will not be so great?" But I thought I could not conscientiously say they are milk-fed turkeys. The person said, "Just so you feed them milk when they are young that ought to be all that is necessary. That is the way chickens are fed." I have not tried this and I cannot say what the result would be. I do know that if you have a fine product you soon become advertised and there is no better advertiser than a satisfied customer, for he will tell his friends.

Another necessary point in marketing is to have your fowls dressed nicely. One cannot be careless in the dressing of poultry and expect to demand top price. To have nice looking turkeys they should be dry picked. Then the skin does not break easily, for a broken skin will cause spotted birds. Some few people like their birds undrawn, but most persons prefer them drawn. And there is an art about drawing them. You will find your bird will look so much nicer if you cut a slit along side of leg instead of across. It will make the breast look wider and longer. It makes a beautiful looking bird that everyone will admire. Of course, there are a few persons that prefer them cut straight across. I have a customer in Virginia that always prefers his cut straight across.

There are several ways of selling the turkeys direct to the consumer. Some will come to your farm and buy the birds on the hoof and take them home to dress them. Others will buy them on the hoof and wait for them to be dressed. Others will write or phone their orders and wish them delivered to their homes.

Still another way is selling on a "Market for Farm Women." And I find that the latter way is growing. I have been selling on a market for about two years. My sales have increased and some who formerly had the birds delivered to their homes now order them from the market. I cannot account for this unless it is the fact that they like to get a look at their bird before they pay for it. I think we all like to see what we are buying. Then it is dressed, drawn, and hung up to drain. Each turkey is wrapped in paper, then put into a sack, name of person written on sack, and they are taken to market. As the person calls for the turkey at market it is unwrapped and each person sees the turkey before it is bought and she sees it weighed. She will most always remark on what a lovely bird.

When they are delivered, they are weighed before they are sent. Formerly, I sold them by weight with feathers off and then drew them,

if they wanted them drawn. I would rather sell them by drawn weight. I think that would be more satisfactory to me if I were buying.

I would like to tell you a few of my experiences. A doctor who had been buying from me did not order a turkey for Thanksgiving. Before Christmas he came to market and told me he had gotten a turkey from a store for Thanksgiving (his wife thought my turkeys were too high in price). They could not eat the store turkey. Had to throw it out. He gave an order for a Christmas turkey.

After Christmas a woman came to me and said a friend had told her about my turkeys. She said she had bought a turkey from someone for Christmas and it was so tough and did not have any taste, so she wanted one of mine for New Year's. After New Year's she came back and said, "Your turkey was fine."

The financial part is the greatest of all. These birds have been a great expense and all must be gotten from them that can be gotten in order to make expenses, and have something over for labor, if possible. This year and last have been trying years on poultrymen. This year especially the feeds have been so much higher.

I do not balance my books until the first of March. That gives me time to sell off most all of the birds. I do not know how I stand financially this year. I have been afraid to get an estimate of the cost. I am afraid the shock would be too great. But I know that selling direct to the consumer is by far the best method. And I think that, as the consumer's trade grows and we become able to sell most of our turkeys to the consumer, perhaps we can pay feed bills and go home with a rounded purse instead of a flat one.

There are smiles that make you happy,
There are smiles that make you sad—
So are there turkey thrills that make you happy or make you sad.

REPORT
OF THE
Boys' and Girls' Four-H Club
Conference

January 10, 1934

Baltimore, Maryland

Great interest in 4-H Club leadership was evident by the large group which attended this conference. The meeting was presided over by E. G. Jenkins, State Boys' Club Agent, who asked that the discussion emphasize the local leadership which directs the affairs of 4-H clubs under the county and home demonstration agents.

Miss Erna Riedel, Anne Arundel County, acted as secretary.

The following discussions centered around the very definite program topics:

1. What is 4-H Leadership?

MISS MAUDE BEAN, Home Demonstration Agent, Allegany County:

"Leadership means different things to different types of people. I can illustrate my idea by using each letter of leadership as the initial of a significant word."

L—Love—love of people, love of the work, loyalty.

E—Enthusiasm—this may be the most important factor.

A—Ability to see visions—to understand the needs of the group.

D—Determination to carry on—to carry out plans.

E—Energy—it requires much to carry on.

R—Responsibility—a clear understanding of his place.

S—Sympathy—be a pal to club members. See things from their standpoint.

H—Health—mental vigor as well as physical strength is needed always.

I—Initiative—no leader lasts long unless he can lead.

P—Purpose—a definite plan—high ideals.

"Today is the greatest day in the year—we have unlimited opportunities for leadership."

MR. STANLEY SUTTON, Assistant County Agent, Kent County:

"There are many ways of being a 4-H Club leader. Not only leading clubs but leading club activities of all kinds requires the ability and training suggested by Miss Bean."

MR. RICHARD BLACKBURN, Local Leader, Caroline County:

"A good leader passes on the actual responsibilities to club members. He advises but does not do the work of leading."

2. *What are the Qualifications for 4-H Club Leadership?*

MISS MARGARET SMITH, Home Demonstration Agent, Talbot County:

- "a. Interest in subject and in the group.
- b. Sense of responsibility.
- c. Initiative.
- d. Personality.
- e. Skill in subject matter.
- f. Tolerance.
- g. Sense of humor.
- h. Impartiality."

MR. MYLO S. DOWNEY, Assistant County Agent, Allegany County:

"Interest is most important. Interest in people more important than interest in the work.

"Time is an important factor, requires careful planning to avoid imposing hardship on volunteer leaders.

"Vision; a leader must have clear idea of the purpose of the club.

"A leader must be respected and well liked in his community.

"Older club members make very good club leaders. Adults often drop out and older youth carry on."

3. *What are the Responsibilities of Leaders?*

MISS ANNA TRENTHAM, Home Demonstration Agent, Baltimore County:

- "a. Should know subject matter.
- b. Be an example (have the skills) of good workmanship.
- c. Make proper and just division of work for members.
- d. Teach youth pride in ownership.
- f. Know what other clubs are doing.
- g. Must help plan work of club.
- h. Attend leaders' training schools."

4. *What Part of the Club Program do Local Leaders Expect Extension Agents to do?*

MISS V. M. KELLAR, State Home Demonstration Agent:

"The county agent is responsible for all possible assistance especially to new local leaders."

MR. C. M. JONES, Local Leader, Caroline County:

"Now that county agents are so busy with adults; especially concerned with the adjustment programs, they must not overlook the youth needs. Agents should give out programs that will give boys a chance to learn

to express themselves. Some boys have inspiration to go on forever. County agents should guide them, developing their initiative."

MRS. L. A. SUTTON, Local Leader, Kent County:

"Older leaders are more experienced, can carry on with less help from Extension Agents but they need help in how to teach subject matter. This is most important."

MISS MARY E. HOLLOWAY, Local Leader, Worcester County.

- "a. Help in planning year's work.
- b. Subject matter presentation.
- c. Continuing interest and belief in 4-H Club work as the best means of teaching subject matter."

MR. KENNETH BAKER, County Agent, Queen Anne's County (former club member and local club leader):

- "a. Have regular local leader meetings.
- b. Busiest people make the best leaders but are hard to get. Agents should find a way to get such people."

MISS DOROTHY EMERSON, Girls' Club Agent:

"There should always be a clear understanding between club leader and county agent. Discussions to settle difficulties should always be held after, never during, meetings."

GORDON UMSTEAD, Local Leader, Montgomery County:

"Agents and leaders should do more to help youth get on their feet and talk."

5. What are the Logical Steps in Organizing a 4-H Club and Who Should Take the Initiative?

MISS EDYTHE TURNER, Home Demonstration Agent, Montgomery County:

- "a. Agent should take initiative and capitalize on material already at hand; older club members, P.-T. A., Social Service League, etc.
- b. Have older club members sell club work to group newly organized.
- c. Select suitable local leader.
- d. Develop friendly, understanding spirit in community."

MR. H. B. DERRICK, County Agent, Baltimore County:

"Important to coordinate club work with adult organizations. County agent should affiliate with other organizations."

6. School Clubs.

MISS HATTIE BROOKS, Home Demonstration Agent, Dorchester County:

"Most clubs are in schools through agreement with county superintendent for definite period in the school schedule."

MR. GEORGE CLENDANIEL, Assistant County Agent, Harford County:

"The sympathy and interest of the parent is most important. The school club gives opportunity to reach more youth, get them at younger age and sometimes assures better subject matter instruction."

7. *More Intensified Club Programs.*

MISS ARDATH MARTIN, Home Demonstration Agent, Washington County:

- "a. More and new projects.
- b. Relate work to the national program.
- c. There is a need for more county club agents."

MR. A. A. ADY, Assistant County Agent, Montgomery County:

- "a. Holding older youth.
- b. Include AAA in 4-H Club program.
- c. Keep club members on roll beyond the age of 21 years.
- d. Keep touch with former club members now in CWA work."

8. *What Sources of Material for Programs?*

MISS MYRNE HENDRY, Home Demonstration Agent, Howard County:

- "a. Study old programs.
- b. Use of bulletins.
- c. Organized plan for leisure time.

MR. WILLIAM CARROLL, Assistant County Agent, Baltimore County:

"Boy cannot become a member unless he has a project. Meetings held at homes and subject matter material is found in the situations at the place visited. Programs are arranged to fit the situation."

MISS EMERSON:

"Encourage club members to have the right attitude on life, in club meetings and in homes."

FIRST ANNUAL MEETING
OF THE
**The Maryland Farm Roadside
Marketing Association**

Lord Baltimore Hotel

January 10, 1934

Baltimore, Maryland

The meeting was called to order by the President, A. H. Nofsinger, at 10.30 A. M.

E. P. Walls, Secretary-Treasurer, was absent on account of illness, and S. B. Shaw read the minutes of the meetings held during the year.

Mr. Nofsinger commented on the year's activities of the organization. He felt that more could have been accomplished had all the members displayed the official sign.

S. B. Shaw discussed the results of the consumer questionnaire, and showed some interesting charts prepared in this connection. A round table discussion followed, in which many helpful suggestions and ideas were set forth. Some of the members requested new signs for their markets, and it was decided that the signs shall be made of heavier material.

Mr. Nofsinger suggested the paying of membership dues amounting to one dollar on January 1 of each year.

It was moved and seconded that the same officers be elected for the current year: A. H. Nofsinger, President; G. H. Hibberd, Vice-President, and E. P. Walls, Secretary-Treasurer.

There being no further business, the meeting adjourned at 1 P. M.

S. B. SHAW,
Acting Secretary.

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